Before the
Federal Communications Commission
Washington, D.C. 20554

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In the Matter of:	)	
	)	
Implementation of Section 304 of the Telecommunications Act of 1996	)	CS Docket No. 97-80
	)	
Commercial Availability of Navigation Devices	)	
	)	
Compatibility Between Cable Systems and Consumer Electronics Equipment	)	PP Docket No. 00-67
	)	

SECOND REPORT AND ORDER AND SECOND FURTHER NOTICE OF PROPOSED RULEMAKING

Adopted: September 10, 2003 **Released: October 9, 2003**

Comment Date: January 14, 2004
Reply Comment Date: February 13, 2004

By the Commission: Chairman Powell, Commissioners Abernathy, Copps, Martin, and Adelstein issuing separate statements.

TABLE OF CONTENTS

I. INTRODUCTION

1. In this proceeding we consider regulations to facilitate the direct connection of digital "navigation devices"[1] or customer premises equipment purchased from retail outlets – including television receivers, set-top boxes and digital recorders – to cable television and other multichannel video programming distributor ("MVPD") systems. Specifically, we consider those rules set forth in the *Further Notice of Proposed Rulemaking* (*"Further Notice"*) issued in the above-captioned proceedings and the comments filed in response thereto [2]

2 The *Further Notice* sought comment on rules agreed upon and submitted to the Commission as part of a Memorandum of Understanding ("MOU") reached by representatives of

[1] Navigation devices are defined for purposes of this proceeding as "converter boxes, interactive equipment, and other equipment used by consumers within their premises to receive multichannel video programming and other services offered over multichannel video programming systems." 47 C.F.R § 76 1201(c).

[2] *Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigation Devices and Compatibility Between Cable Systems and Consumer Electronics Equipment*, 18 FCC Rcd 518 (2003) (*"Further Notice"*).

the cable television and consumer electronics industries.[3] The MOU detailed a comprehensive agreement on a cable compatibility standard for integrated, unidirectional digital cable television receivers, as well as other unidirectional digital cable products The cable and consumer electronics industries have long disagreed over the specifics of a so-called "plug and play" standard for digital cable television, as evidenced by numerous filings in the above-captioned dockets.[4] By establishing a standard to ensure the compatibility of cable television systems with digital television ("DTV") receivers and related consumer electronics equipment, the cable and consumer electronics industries hope to "build products and develop services to spur the digital transition."[5] In response to the *Further Notice*, numerous parties filed comments and reply comments; this *Second Report and Order and Second Further Notice of Proposed Rulemaking* represents the Commission's findings based upon the record established in this proceeding.[6]

II. BACKGROUND AND SUMMARY

3. Section 629 of the Communications Act, which is titled "Competitive Availability of Navigation Devices, requires the Commission to:

> adopt regulations to assure the commercial availability, to consumers of multichannel video programming and other services offered over multichannel video programming systems, of converter boxes, interactive communications equipment, and other equipment used by consumers to access, multichannel video programming and other services offered over multichannel video programming systems, from manufacturers, retailers, and other vendors not affiliated with any multichannel video programming distributor.[7]

The purpose of Section 629 is to afford consumers the opportunity to purchase navigation devices from sources other than their MVPD service provider. In addition, the statute provides that the Commission "shall not prescribe regulations . . which would jeopardize security of multichannel video programming and other services offered over multichannel video programming systems, or impede the legal rights of a provider of such services to prevent theft of

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[3] *See* Letter from Carl E. Vogel, President and CEO, Charter Communications, *et al*, to Michael K. Powell, Chairman, FCC (Dec. 19, 2002) ("Cable/CE Letter"), *Memorandum of Understanding Among Cable MSOs and Consumer Electronics Manufacturers* (signed by Charter Communications, Inc., Comcast Cable Communications, Inc, Cox Communications, Inc., Time Warner Cable, CSC Holdings, Inc., Insight Communications Company, L.P., Cable One, Inc., Advance/Newhouse Communications, Hitachi America, Ltd., JVC Americas Corp, Mitsubishi Digital Electronics America, Inc, Matsushita Electric Corp. of America (Panasonic), Philips Consumer Electronics North America, Pioneer North America, Inc., Runco International, Inc, Samsung Electronics Corporation, Sharp Electronics Corporation, Sony Electronics, Inc, Thomson, Toshiba America Consumer Electronics, Inc., Yamaha Electronics Corporation, USA, and Zenith Electronics Corporation) ("MOU")

[4] *See* Comments filed in response to *Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigation Devices,* 15 FCC Rcd 18199 (2000) ("*FNPRM and Declaratory Ruling*"), *Compatibility Between Cable Systems And Consumer Electronics Equipment*, 15 FCC Rcd 17568 (2000) ("*Digital Compatibility Report and Order*").

[5] Cable/CE Letter at 1.

[6] A list of parties filing comments and reply comments is set forth in Appendix A.

[7] 47 U S C. § 549(a)

service."[8]

4. In order to permit a competitive market for the design, manufacture and retail sale of navigation devices to develop, a number of practical issues must be addressed. First, because one of the primary functions of these devices is to preclude the unauthorized reception or use of service, it is necessary to address service theft in situations where the device is no longer entirely within the service provider's control. This issue is comprised of two components, unauthorized access to service (theft of service) and unauthorized redistribution or copying of programming content legally acquired for a limited use (copy protection/digital rights management). Other practical concerns that must be addressed involve engineering and technical standards issues. Manufacturers require certain technical specifications in order to produce a device compatible with a particular MVPD's system. Therefore, if portable devices that can be marketed nationally are to be created, some technical standardization among MVPDs is needed.

5. The initial decisions and rules adopted in the *Navigation Devices* proceeding[9] implementing this statutory provision included, *inter alia*, the following:

(1) Section 629 covers not just equipment used to receive video programming, but also equipment used to access other services offered over MVPD systems, including televisions, VCRs, set-top boxes, personal computers, program guide equipment, and cable modems;

(2) Subscribers have the right to attach any compatible navigation device to an MVPD system;

(3) MVPDs must separate out conditional access or security functions from other functions and make available modular security components, also called point of deployment ("POD") modules;

(4) After January 1, 2005, MVPDs shall not deploy new navigation devices for lease to subscribers that have security and non-security functions combined;

(5) MVPDs must provide technical information concerning interface parameters that are needed to permit navigation devices to operate with their systems in a timely manner; and

(6) MVPDs can take actions necessary to protect their operations from technical harm and theft of service.[10]

On reconsideration, the Commission deferred application of the separate security requirement for analog-only equipment and reiterated that it would assess the state of the market once separate security modules were available.[11] The Commission also issued a *Further Notice of Proposed*

[8] 47 U.S C. § 549(b)

[9] *Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigation Devices,* 13 FCC Rcd 14775 (1998) *("Navigation Devices Order")*

[10] *Id* at 14778-79

[11] *Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices* 14 FCC Rcd 7596, 7599-7606, 7613 (1999) ("*Reconsideration Order*"); *see also Navigation Devices Order,* 13 FCC Rcd at 14803 The Commission's navigation devices rules were upheld

Rulemaking and Declaratory Ruling seeking comment on whether: (i) OpenCable, the cable industry's initiative for navigation device interconnection specifications, adequately represents the full range of interested parties and delivered specifications that permit manufacturers to build functional devices for sale at retail; (ii) the Commission should revise the 2005 ban on cable operators deploying navigation devices with integrated security functions; (iii) any obstacles exist that might inhibit the commercial availability of host devices; and (iv) there are any other factors "impeding or affecting achievement of the goals of Section 629."[12] Due to ongoing industry negotiations that might impact the development of technical specifications relating to host devices and POD modules, the Commission recently extended the deadline concerning the prohibition on MVPD-provided integrated devices until July 1, 2006, and committed to completing a reassessment of the navigation devices market before January 1, 2005.[13]

6. In addition to its efforts to ensure the commercial availability of navigation devices pursuant to Section 629, the Commission has focused on labeling and consumer education in the cable compatibility sphere. Section 624A of the Communications Act, as amended, requires the Commission to assure the compatibility between cable systems and consumer electronics equipment such as television receivers.[14] To this end, the Commission adopted cable compatibility labeling standards for analog television receivers pursuant to Section 624A(c)(2)(A).[15] Congress also requires the Commission to review and modify its compatibility regulations "to reflect improvements and changes in cable systems, television receivers, video cassette recorders, and similar technology."[16] Because cable operators, consumer electronics manufacturers, and retailers were unable to reach agreement on voluntary DTV labeling standards, the Commission issued a *Report and Order* establishing its own "Digital Cable Ready 1-2-3" labeling regime encompassing different degrees of interactivity and connectivity among digital cable ready television receivers.[17] Each of the Digital Cable Ready 1-2-3 labels reflects the ability of receivers to perform basic cable navigation for analog, digital basic and digital premium services, as well as receive encrypted services with a POD.[18] Digital Cable Ready 2 and Digital Cable Ready 3 receivers additionally support interactive two-way services, although they differ in how they provide these functions.[19]

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by the United States Court of Appeals for the District of Columbia Circuit *See General Instrument Corporation v FCC*, 213 F.3d 724 (D.C. Cir. 2000) ("*General Instrument*").

[12] *FNPRM and Declaratory Ruling*, 15 FCC Rcd at 18202.

[13] *Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, 18 FCC Rcd 7924 (2003) ("*2005 Order and FNPRM*").

[14] 47 U.S.C § 544A.

[15] *Id.* § 544A(c)(2)(A); *see Compatibility Between Cable Systems and Consumer Electronics Equipment*, 9 FCC Rcd 1981 (1994) ("*Compatibility Report and Order*").

[16] 47 U.S.C § 544A(d).

[17] *Digital Compatibility Report and Order*, 15 FCC Rcd at 17568. Petitions for reconsideration of the *Digital Compatibility Report and Order* filed by Time Warner Cable and the National Cable and Telecommunications Association ("NCTA") are currently pending before the Commission. *See infra* n.111 and accompanying text (resolving the petitions for reconsideration).

[18] *Digital Compatibility Report and Order*, 15 FCC Rcd at 17577.

[19] Receivers under the Digital Cable Ready 2 category use a set-top box that connects to the television via a 1394 connector while Digital Cable Ready 3 devices support interactive services without a set-top box. *Digital Compatibility Report and Order*, 15 FCC Rcd at 17577.

7. Within this regulatory framework, the cable and consumer electronics industries attempted to privately negotiate a cable compatibility standard for DTV receivers that would take into account the security separation requirement of Section 629 and effectively integrate the navigation functionality of set-top boxes into television receivers. The resulting MOU reflects a compromise agreement among the parties on a specification that will permit the manufacture of unidirectional digital cable television receivers that include this navigation functionality. Proponents of the MOU assert that unidirectional digital cable television receivers manufactured thereunder would be capable of receiving analog basic, digital basic and digital premium cable television programming by direct connection to a cable system providing digital programming.[20] Due to the unidirectional nature of this receiver specification, an external navigation device would still be needed to receive advanced features such as cable operator-enhanced electronic programming guides ("EPGs"), impulse pay per view ("IPPV") or video on demand ("VOD").[21] Negotiations are ongoing for a bidirectional receiver specification which would eliminate the need for an external navigation device to receive advanced services.[22] Due to the level of technical detail involved in those discussions, however, they are not yet ripe for consideration at this time.

8. The MOU as proposed to the Commission requires the cable and consumer electronics industries to commit to certain voluntary acts and seeks the creation or revision of Commission rules in the following general areas

> (1) Requiring digital cable systems with an activated channel capacity of 750 MHz or greater to support operation of unidirectional digital cable products and to ensure that navigation devices utilized in connection with such systems have a 1394 interface and comply with specified technical standards;
>
> (2) Establishing a labeling regime for unidirectional digital cable television receivers and related digital cable products that meet certain technical specifications. This regime, which would be voluntarily used by consumer electronics manufacturers, encompasses testing and self-certification standards, as well as consumer information disclosures to purchasers of such receivers and products; and
>
> (3) Adopting limits on encoding rules for audiovisual content applicable to all MVPDs, including prohibitions on the use of selectable output controls and the down-resolution of broadcast television programming [23]

The cable and consumer electronics industries also submitted, along with the proposed rules, a draft license for the Dynamic Feedback Arrangement Scrambling Technique ("DFAST")

[20] MOU at 4.

[21] *Id.*

[22] *Id* at 10. *See* Letter from Neal Goldberg, General Counsel, NCTA, and Michael Petricone, Vice President, Technology Policy, CEA, to Marlene Dortch, Secretary, FCC (July 24, 2003) ("*Joint Status Report*"). As these bidirectional negotiations progress, we encourage the cable and consumer electronics industries to consult with interested parties and affected industries.

[23] *Recommended Regulations to Ensure Compatibility Between Digital Cable Systems and Unidirectional Digital Cable Products and to Provide for Appropriate Labeling of Such Products* at 1-6 ("Draft Technical Rules"), *Encoding Rules As Proposed to the FCC* at 1-10 ("Draft Encoding Rules")

technology for which they did not seek regulatory approval.[24] On January 7, 2003, the Commission adopted the *Further Notice* seeking public comment on the MOU and the proposed Commission rules contained therein.[25]

9. At the outset, we recognize that certain commenters advocate resolution of the *Further Notice* in tandem with related issues raised in our *Digital Broadcast Copy Protection* proceeding.[26] We anticipate addressing these issues in the near future. We also wish to clarify the intended scope and effect of this *Second Report and Order and Second Further Notice of Proposed Rulemaking*. Our decision herein is not intended in any way to change or affect existing copyright law. The encoding rules adopted herein are directed at MVPDs and their distribution mechanisms. As a result, the underlying rights and remedies available to copyright holders remain unchanged. In the same manner, this decision is not intended to alter the defenses and penalties applicable in cases of copyright infringement

10. In this *Second Report and Order and Second Further Notice of Proposed Rulemaking*, we adopt the technical rules proposed as part of the MOU, with certain modifications described herein and set forth in Appendix B.[27] Specifically, we adopt the proposed definition of a unidirectional digital cable product, with certain clarifications of its intended scope. In order to ensure that televisions manufactured pursuant to this definition meet its specified technical parameters and functionalities, we adopt certification procedures applicable to the first prototype of each model, and self-certification procedures for subsequent models. We also adopt a voluntary labeling regime and required consumer information disclosures in order to inform consumers of the features and functionalities of unidirectional digital cable products.

11 A key component of the MOU proposed to the Commission is a set of encoding rules that would set caps on the levels of copy protection applicable to content distributed by MVPDs. The proposed encoding rules also include a ban on the use of selectable output control technology and the down-resolution of unencrypted broadcast television by MVPDs. Bans on both the current use of selectable output control and the down-resolution of broadcast programming will further the DTV transition and ensure that consumer expectations regarding the functionality of their digital cable ready televisions and products are met. In addition, enacting limits on the amount of copy protection that may be applied to different categories of programming strikes a measured balance between the desire of content providers and MVPDs to prevent the unauthorized redistribution or copying of content distributed by MVPDs and the preservation of consumer expectations regarding the time shifting of programming for home viewing and other permitted uses of such material We take such action pursuant to our Congressional mandate under Section 629 to ensure the commercial availability of navigation devices and safeguard the security of MVPD programming, as well as our ancillary jurisdiction

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[24] *DFAST Technology License Agreement for Unidirectional Digital Cable Products* at 1-37 ("Draft DFAST License").

[25] *Further Notice*, 18 FCC Rcd at 518

[26] *See e g*, Letter from Fritz Attaway, MPAA to Marlene Dortch, Secretary, FCC (Sept 3, 2003); *see also Digital Broadcast Copy Protection*, 17 FCC Rcd 16027 (2002) ("*Digital Broadcast NPRM*")

[27] As a result of the incorporation by reference of certain technical standards into the Commission's rules, other rule amendments were required relating to earlier incorporations by reference. These amendments, as reflected in Sections 15.38 and 76.602 of the Commissions rules, are administrative in nature and relate to agency procedure and practice Consequently, the notice and comment procedures of the Administrative Procedure Act, contained in 5 U S C § 553(b), are inapplicable.

under the Communications Act.

12. Finally, to ensure design innovation and promote device interconnectivity, we adopt interim procedures by which new outputs and associated content protection technologies can be authorized for implementation in unidirectional digital cable products. We also initiate a *Second Further Notice of Proposed Rulemaking* ("*Second FNPRM*") to study, *inter alia*, procedures and mechanisms by which outputs and associated content protection technologies can be approved on a permanent basis going forward

III. DIGITAL CABLE SYSTEM TRANSMISSION STANDARDS AND SUPPORT REQUIREMENTS

13. The first part of the proposed technical rules involves standards governing the manner in which video programming is distributed on digital cable systems.[28] Subpart K of Part 76 of the Commission's rules already addresses various technical requirements for cable systems which ensure that cable systems operate in a reliable and secure manner.[29] The proposed rules would prescribe additional technical standards to ensure that subscribers are able to fully enjoy the functionalities of unidirectional digital cable products as well as the digital services offered by their cable operator.

14 These proposed transmission and support requirements would apply to digital cable systems, a term left undefined by the draft rules. Some commenters, such as the American Cable Association ("ACA"), seek clarification as to whether the proposed rules would affect cable systems whose only digital programming comes from Comcast Corporation's ("Comcast") Headend-in-the-Sky ("HITS") service.[30] In response to Commission inquiries, members of the cable and consumer electronics industries indicated their belief that the definition of a "digital cable system" includes those systems "contain[ing] one or more channels utilizing Quadrature Amplitude Modulation ("QAM") for transporting programs and services from a headend to a receiving device."[31] We concur In order to ensure that consumer expectations regarding the functionality of digital cable compatible equipment are met, we believe that cable systems carrying at least one digital QAM channel, including programming from the HITS service, must be considered to be digital cable systems subject to the proposed transmission and support requirements. We do not believe, however, that cable systems passing through only 8 VSB digital broadcast signals would qualify as digital cable systems since they are only passing through the digital signals on their analog systems.

15. The specific transmission and other technical obligations applicable to digital cable systems would relate to cable operator support of "unidirectional digital cable products."[32] As discussed below, unidirectional digital cable products are defined in the draft labeling rules as "one-way devices which include, but are not limited to televisions, set-top-boxes and recording

[28] Draft Technical Rules at 1-2.

[29] 47 C F R §§ 76 601-76 630.

[30] ACA Comments at 6.

[31] *See* Letter from Neal M. Goldberg, General Counsel, NCTA, to John Wong, Chief, Engineering Division, Media Bureau, FCC at 3-4 (July 10, 2003) ("Cable/CE Response to Questions").

[32] Draft Technical Rules at 1.

devices, connected to digital cable systems."[33] While the draft rules do not specify the meaning of unidirectional digital cable products beyond "one-way devices," the model DFAST license accompanying the MOU excludes from its definition interactive products that "are capable of obtaining access to video-on-demand or impulse pay-per view services, of using the return path of the cable system, or of using electronic program guide services."[34] Several commenters express concern that this definition is too narrow.[35] In response, representatives of the cable and consumer electronics industries indicate that they are in the midst of negotiations for a similar agreement covering two-way or interactive devices.[36] Manufacturers have pledged to "future-proof" one-way digital products so that they permit consumer access to two-way services through digital connectors and thereby allow subscribers to benefit from all digital services offered by their service provider.[37] While we anticipate that the cable and consumer electronics industries will endeavor to complete their negotiations for a bidirectional agreement in due course, we believe that the adoption of standards for unidirectional digital cable products is a necessary first step towards ensuring the compatibility of digital devices with cable systems.[38]

16. Although concerns have been raised regarding to certain aspects of the proposed transmission and support rules, the record largely supports the need for technical compatibility standards for digital cable television. Below we consider issues raised by commenters in six key areas: (1) transmissions standards; (2) PODs; (3) tuning and guide information; (4) high definition set-top boxes; (5) exemptions from the standards and associated obligations; and (6) innovation and changes in the standards.

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[33] *Id* at 2 *See* Section IV, *infra*

[34] Draft DFAST License at 3

[35] Public interest groups and information technology ("IT") companies question the DFAST license definition in so far as it appears to exclude from its scope personal computers ("PCs") and other devices with Internet connectivity which might be used as a "return path " *See* ATI Technolgies, Dell, Intel, HP, Microsoft & NEC Comments at 3-4 ("IT Coalition Comments"), Intel Corporation Comments at 3-6, 11-12; Public Knowledge & Consumers Union Comments at 12-15 ("PK & CU Comments"); TiVo Inc. Comments at 5 ("TiVo Comments"), and Consumer Federation of America Reply Comments at 6 ("CFA Reply Comments") NCTA and CEA/CERC clarify in their Reply Comments that neither digital cable compatible products with cable modem functionality, nor PCs with a POD slot and Internet connectivity, are intended to be excluded from the terms of the DFAST license, so long as such devices otherwise meet the license's compliance and robustness rules NCTA Reply Comments at 30-31; CEA/CERC Reply Comments at 7. We concur with NCTA and CEA/CERC's interpretation of the DFAST license definition and believe that it is consistent with the definition of unidirectional digital cable products that we are adopting in Section IV infra. In addition, we expect that the DFAST license and its associated compliance and robustness rules will be designed and implemented in a manner that does not *per se* exclude PCs and other devices with open architesctures from qualifying as unidirectional digital cable products. Commenters have noted that digital rights management technologies developed for the PC environment, using robust encryption algorithms, are already commonly used in other instances where content must be protected *See* Letter from Paula Boyd, Microsoft Corporation, *et al* , to Marlene Dortch, Secretary, FCC (Sept. 3, 2003) We encourage CableLabs to work with interested parties in this regard.

[36] Cable/CE Letter at 1

[37] NCTA Comments at 11

[38] Pursuant to the *2005 Order and FNPRM* issued in our Navigation Devices proceeding, we are monitoring the progress of the cable and consumer electronics industries' bidirectional digital cable product negotiations

A. Transmission Standards

17. Under the proposed transmission standards, digital cable systems with an activated channel capacity of 750 MHz or greater would be required to adhere to certain technical standards involving the digital cable network interface and the digital video service multiplex and transport system.[39] These requirements would standardize certain attributes of digital cable system transmissions, thereby facilitating the direct connection of unidirectional digital cable televisions and products to cable systems nationwide.[40] A number of large cable systems comply with these standards already; other operators have begun implementation at their headends and through their networks.[41] No comments were received objecting to these requirements; we hereby adopt them into our rules.

18. The Electronic Frontier Foundation ("EFF") seeks clarification from the Commission that all analog and digital basic tier services would remain unencrypted in order to encourage the development of basic tier ready devices.[42] EFF envisions that basic tier ready television receivers would have QAM tuners but not POD-Host interfaces, and would only be able to access digital basic tier services. In reply, NCTA argues that the issue of basic tier encryption is already addressed in the Commission's rules and allows for waivers where needed.[43] In addition, NCTA and Comcast assert that a "basic tier ready" designation would be confusing as to the level of service offered.[44] While Section 76.630 generally prohibits encryption of the basic tier, the express issue of digital basic tier encryption is outside the scope of this proceeding and appropriate notice has not been given. As a result, we decline to act on EFF's request

B. PODs

19. Section 76.1204 of the Commission's rules requires cable operators to provide PODs to subscribers at their request for use with non-integrated navigation devices.[45] As a practical matter, however, non-integrated navigation devices have yet to gain adoption in the marketplace, thereby directly affecting subscriber demand for PODs. The POD provisioning requirements in the draft rules reflect the fact that unidirectional digital cable televisions and products would represent the first widespread implementation of POD and POD-Host interface

[39] Draft Technical Rules at 1.

[40] *See* SCTE 40 2003, Digital Cable Network Interface Standard (SCTE 2003) ("SCTE 40 2003"); ANSI/SCTE 65 2003, Service Information Delivered Out-of-Band for Digital Cable Television ("ANSI 65 2003"), ANSI/SCTE 54 2003, Digital Video Service Multiplex and Transport System Standards for Cable Television (ANSI 2003) ("ANSI/SCTE 54 2003").

[41] *See Joint Status Report* at 2. To ensure that consumer expectations regarding the functionality of unidirectional digital cable televisions and products are met, we encourage digital cable systems with an activated channel capacity of 550 MHz or greater to meet these technical standards where it is financially and technically feasible.

[42] EFF Reply Comments at 6-7.

[43] NCTA Reply Comments at 45-46; *see* 47 C.F.R. § 76.630(a)

[44] NCTA Reply Comments at 42-43, Comcast Reply Comments at 17-18.

[45] According to NCTA, PODs will now be referred to for marketing purposes as CableCARDs *Joint Status Report* at 2. Because the MOU and draft technical rules refer to these security modules as PODs, we continue to use this term

technology in the marketplace. Under these rules, all digital cable systems would be required to maintain an adequate supply of PODs and ensure convenient access to such PODs for their subscribers by July 1, 2004.[46] In addition, all digital cable systems would be required to conform to technical standards governing POD-Host interfaces and the POD copy protection system.[47] We believe that these new requirements will further the Commission's mandate to ensure the commercial availability of navigation devices and facilitate the adoption and implementation of both unidirectional digital cable products and the POD-Host interface platform. On this basis, we hereby adopt these POD provisioning and support requirements.

20. Separate from these requirements, TiVo suggests that dual tuner functionality competition should be encouraged by permitting two POD-Host interfaces in consumer electronics devices until a bidirectional specification is authorized for use.[48] In response, the cable industry indicates that the draft rules do not prevent MSOs from providing multiple PODs for devices with dual tuning capability, and that the multi-stream POD now in development as part of the bidirectional negotiations may also satisfy TiVo's concern.[49] While a multi-stream POD specification is being developed, we expect that cable operators will make multiple PODs available to consumers with unidirectional digital cable products that have dual tuner functionality. TiVo also asks that the Commission require that PODs emit a standardized MPEG output to prevent the use of proprietary output formats by cable operators.[50] NCTA counters that this proposal is inappropriate in the one-way context and notes that these issues are being addressed in its bidirectional negotiations with the consumer electronics industry.[51] We agree with NCTA that these issues are best addressed through the ongoing bidirectional negotiations and continuing development of the OpenCable Applications Platform ("OCAP") specification.

C. Tuning and Guide Information

21. The proposed rules would also require digital cable systems with an activated channel capacity of 750 MHz or greater to comply with certain Program and System Information Protocol ("PSIP") obligations, including the February 2000 PSIP Agreement between NCTA and the Consumer Electronics Association ("CEA") ("PSIP Agreement").[52] PSIP is the standard protocol that enables receivers to identify, locate and process the various types of content being transmitted, including video, audio, closed captions, content advisory information and ancillary data.

22. Parties have suggested modifications to the proposed requirements. The Association of Public Television Stations ("APTS"), National Association of Broadcasters ("NAB") and Paxson Communications Corporation ("Paxson") advocate that profile 4 or higher out-of-band PSIP information should be required under the ANSI/SCTE 65 2002 standard in

[46] Draft Technical Rules at 1-2

[47] *See* ANSI/SCTE 28 2003, Host-POD Interface Standard (ANSI 2003) ("ANSI/SCTE 28 2003"); SCTE 41 2003, POD Copy Protection System (SCTE 2003) ("SCTE 41 2003").

[48] TiVo Comments at 6-7

[49] NCTA Reply Comments at 41-42, *see also* Comcast Reply Comments at 16.

[50] TiVo Comments at 7.

[51] NCTA Reply Comments at 42.

[52] Draft Technical Rules at 1

order to make that standard comport with the PSIP Agreement.[53] They additionally seek a requirement that the out-of-band PSIP match the channel number in-band, and reject the bandwidth limitation for in-band PSIP contained in the PSIP Agreement.[54] Comcast and CEA counter that no additional PSIP requirements are needed at this time, while CFA suggests that broadcasters are inappropriately attempting to mandate the passage of PSIP information in this proceeding.[55] NCTA specifically challenges the broadcasters' views by arguing that mandated carriage of profile 4 PSIP information is not needed given that if operators agree to carry Event Information Table ("EIT") data out-of-band, they will do so using profile 4 or higher.[56] NCTA further contends that bandwidth caps on in-band PSIP information are needed and that two-part channel numbering would not be backward compatible with the millions of legacy digital set-top boxes in the marketplace.[57]

23. While we recognize that there are a number of outstanding PSIP issues relating to the DTV transition and cable carriage, we believe that resolution of some of those issues are properly addressed in the Commission's digital must carry and DTV periodic review dockets.[58] In order to ensure the proper functioning of unidirectional digital cable products, however, we find it necessary here to incorporate those portions of the PSIP Agreement applicable to cable operators into the Commission's rules. Rather than incorporating by reference the entire document as proposed in the draft rules, we believe that a direct incorporation of specific provisions is more appropriate. As a result, we hereby adopt those PSIP obligations that will ensure that cable operators carry PSIP data when received from content providers in conformity with the ATSC A/65B standard.[59] However, we decline to take action on the proposed revisions that are better addressed in our ongoing digital must carry and DTV periodic review proceedings.

D. High Definition Set-Top Boxes

24. Cable subscribers owning unidirectional digital cable televisions or DTV monitors that wish to receive advanced, interactive services will need a separate set-top box in order to do so. As a means of ensuring the connectivity of these devices, the proposed rules would obligate all cable operators, effective December 31, 2003, to replace or upgrade subscriber-leased high definition set-top boxes upon subscriber request to ensure that such boxes have "functional" 1394 interfaces.[60] For these purposes, a "functional" 1394 means a 1394 interface with appropriate software support.[61] Starting July 1, 2005, all high definition set-top

[53] APTS Reply Comments at 3; NAB Comments at 9-10, Paxson Reply Comments at 2-5 n.8

[54] APTS Reply Comments at 3; NAB Comments at 9-10, Paxson Reply Comments at 2-5 n.8.

[55] Comcast Reply Comments at 3, 13-15; CEA Reply Comments at 4-5, CFA Reply Comments at 7.

[56] NCTA Reply Comments at 43-45

[57] *Id*

[58] *Carriage of the Transmission of Digital Television Broadcast Stations*, CS Docket Nos. 98-120, 00-96 and 00-2; *Second Periodic Review of the Commission's Rules and Policies Affecting the Transition to Digital Television*, MB Docket No. 03-15, RM 9832, MM Docket Nos 99-360, 00-167 and 00-168.

[59] ATSC A/65B, Program and System Information Protocol for Terrestrial Broadcast and Cable (ATSC 2003), *see* Appendix B at § 76 640(b)(1)(iv)-(v)

[60] Draft Technical Rules at 2.

[61] MOU at 6 The MOU signatories clarified that the use of the term "functional" in connection with the [December 31, 2003] deadline reflected "an acknowledgement that prior to the MOU, several MSOs had

boxes acquired by cable operators for distribution to subscribers would need to include a 1394 interface and either a Digital Visual Interface ("DVI") or High Definition Multimedia Interface ("HDMI").[62] High definition set-top boxes provided to subscribers pursuant to these deadlines would also need to comply with certain technical standards.[63] No comments were received objecting to these proposals We believe that these interface and technical requirements will set a baseline for connectivity ensuring that cable subscribers are able to fully enjoy the range of services offered by their cable provider in a secure, digital format. As such, we adopt these high definition set-top box obligations and defer the December 31, 2003 obligation to April 1, 2004.

25. We recognize that in this context, as well as with respect to the labeling requirements for digital cable ready devices, commenters such as Genesis Microchip have expressed concern that the patents underlying DVI and HDMI interface specifications and the HDCP content protection technologies have not been fully vetted for outstanding claims.[64] Genesis Microchip also questions whether the associated licenses are offered on non-discriminatory terms with stable and certain license fees.[65] Although the DVI, HDMI and HDCP specifications did not result from a formal standard setting process,[66] the technology underlying these specifications is widely available in the marketplace today. Further, the adopter agreements for these technologies are freely offered on non-discriminatory terms.[67] Consistent with our previous patent policy, we will nonetheless consider any complaints that these technologies are not being licensed on reasonable and non-discriminatory terms, or are unavailable due to outstanding patent claims.[68]

E. Exemptions from Standards and Associated Obligations

26 Some commenters have questioned the scope of the digital cable system transmission standards and support obligations given that some of the requirements only apply to systems with an activated channel capacity of 750 MHz or greater while other requirements apply to all digital cable systems.[69] To the extent that certain support obligations might disparately

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purchased and, in some cases, deployed high-definition digital set-top boxes which contained an IEEE 1394 interface which do not have software embedded in the [set-top box] to allow the 1394 interface to function " Cable/CE Response to Questions at 4

[62] Draft Technical Rules at 2 The use of the term "functional" does not appear in connection with the July 2005 deadline for DVI or HDMI interfaces since the MOU signatories anticipate that "interfaces... associated with future set-top product purchases .. would be made functional by the manufacturer before delivery to the operator." Cable/CE Response to Questions at 5.

[63] Draft Technical Rules at 2. *See* ANCI/SCTE 26 2001, Home Digital Network Interface Specification with Copy Protection (ANSI 2001); CEA-931-A, Remote Control Command Pass-through Standard for Home Networking (CEA 2003).

[64] Genesis Microchip Reply Comments at 3-5

[65] *Id.*

[66] We note, however, that DVI, HDMI and HDCP have been included as normative references in standards that have undergone the ANSI process *See e g*, CEA-861-B, A DTV Profile for Uncompressed High Speed Digital Interfaces (2002)

[67] *See e g*, HDMI Specification Adopter Agreement, *available at* http://www.hdmi.com.

[68] *Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, 6 FCC Rcd 7024, 7034 (1991)

[69] ACA Comments at 7-8

impact small cable systems, ACA asks that the Commission consider either a small system exemption or waivers for affected entities.[70] In response to ACA's concerns, CEA, NCTA and Comcast agree that small cable systems burdened by the support requirements should be allowed to seek waivers. NCTA and Comcast also suggest that the burden may not be as significant as ACA anticipates. For example, the only technical support requirement affecting digital cable systems below 750 MHz involves the provisioning of PODs to subscribers, something cable operators are already required to do upon request.[71] In addition, NCTA and Comcast clarify that the July 1, 2005, deadline for certain digital interfaces on high definition set-top boxes only applies to new boxes acquired after that date, with no resulting need to replace existing set-top box inventories.[72]

27 Although the record does not reflect a detailed economic analysis of the potential cost impact on small cable systems, we believe that the proposed support obligations have been designed to minimize, to the extent possible, any negative cost impact upon small cable systems All cable operators, including those with small systems, would be obligated to replace or provide high definition set-top boxes with digital connector interfaces. Given that the requirement commencing April 1, 2004, to ensure that leased high definition set-top boxes have functional 1394 interfaces would only apply upon subscriber request, and that the July 1, 2005, deadline for 1394 and DVI/HDMI interfaces on such boxes would apply only to equipment acquired after that date, we believe that small cable systems would not be required to replace wholesale their set-top box inventories in the short term. The only other technical support obligation applicable to digital cable systems with an activated channel capacity of less than 750 MHz relates to the provisioning of PODs, a requirement that must already be met upon subscriber request pursuant to Section 76.1204 of the Commission's rules.[73] We recognize, however, that there may be a negative cost impact upon some small systems as a result of compliance with these obligations, particularly with those requirements incumbent on systems with an activated channel capacity of 750 MHz or greater. To the extent that small cable systems would experience economic hardship as a result of these obligations, we will consider waiver requests on a case-by-case basis.

28 Although waivers will benefit small system operators significantly burdened by adherence to these technical requirements, we are concerned that consumers who purchase unidirectional digital cable products and find them incompatible with cable systems that are either not digital or are subject to a small system waiver will be frustrated. Consumer education regarding the ability of their local cable operator to support unidirectional digital cable products will be critical to ensuring that consumer expectations are met. We recognize that the MOU contains voluntary commitments by cable operators to (1) offer to educate local retailers regarding the capability of the local cable system to support unidirectional digital cable products, and (2) update the cable industry's Go2Broadband website with information identifying systems that support such products.[74] We strongly encourage these and further cable industry efforts and exhort retailers to educate consumers about the compatibility of unidirectional digital cable products with local cable systems.

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[70] *Id* at 4-6

[71] NCTA Reply Comments at 46; Comcast Reply Comments at n 32, *see also* 47 C.F.R § 76.1204.

[72] NCTA Reply Comments at 46, Comcast Reply Comments at n 31

[73] *See* 47 C F R. § 76 1204

[74] MOU at 9

F. Innovation and Changes in Standards

29. Several commenters express concern that by incorporating specific technical standards into our rules, the current state of technology will be frozen and innovation harmed.[75] Indeed, some of the standards referenced in the draft technical rules have already been revised while other amendments await adoption.[76] We recognize the rapid pace of technological development today. Nonetheless, some degree of standardization is necessary to ensure widespread compatibility of digital television with cable systems and the commercial availability of unidirectional digital cable televisions and products. We agree with NCTA that the normative requirements in the proposed rules have been minimized to the extent possible.[77] In adopting the proposed technical requirements, we are incorporating the most recent versions of the referenced standards and will seek to update them as warranted. As an added measure to ensure that innovation is not stifled, we will conduct periodic reviews of these technical requirements as suggested in the draft rules. As part of our review process, we will consider whether any of these system transmission or support requirements should be amended or sunset in light of technological changes or other factors It is our belief that once a baseline compatibility standard has been set, marketplace forces are best suited to decide which products and services will meet consumers' needs and interests.

IV. LABELING AND CONSUMER DISCLOSURES

30. As indicated above, one of the mechanisms specified in the Communications Act for addressing compatibility is an equipment labeling regime. Section 624A(c)(2)(A) authorizes the Commission to adopt regulations specifying the technical requirements for television receivers and related equipment to be sold as "'cable compatible' or 'cable ready.'"[78] The establishment of a label that delineates a certain level of technical functionality serves two purposes: (1) to aid consumers in making purchasing decisions, and (2) to identify for cable operators those devices that can be attached to their system pursuant to certain baseline compatibility requirements.

31. The labeling regime proposed to the Commission is voluntary in nature; consumer electronics manufacturers are not obliged to physically affix a label to their products. Rather, the proposed regime sets forth basic requirements that unidirectional digital cable televisions and products must meet in order to be marketed or labeled as digital cable ready. We herein adopt the proposed definition of unidirectional digital cable products, discussed above, as one-way devices and clarify that this definition excludes interactive two-way services.[79] Below

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[75] EchoStar Communications Corp. Reply Comments at 2-4; NAB Reply Comments at 6-7; PK & CU Comments at 4-5; PK & CU Reply Comments at 2-3, 8-9; TiVo Comments at 2

[76] Cable/CE Response to Questions at 1-2.

[77] NCTA Reply Comments at 10.

[78] *See* 47 U.S C § 544a(c)(2)(A)

[79] *See* Draft Technical Rules at 2; Draft DFAST License at 3; *see also* Section III, *supra*. We believe that the term unidirectional digital cable products can encompass a broad range of devices. It is for this reason that the list of unidirectional digital cable products identified in the draft rules "include[s], but is not limited to televisions, set-top boxes and recording devices." Draft Technical Rules at 2 We clarify that although the definition of unidirectional digital cable products we are adopting excludes interactive two-way devices, this exclusion would not apply to devices with cable modem functionality or Internet connectivity, such as personal computers As such, devices with cable modem functionality or Internet connectivity

we address concerns raised by certain commenters seeking modification of the basic requirements for unidirectional digital cable televisions to be labeled digital cable ready. We also address the interrelation of this labeling regime to a certification compliance process and to the Commission's existing "Digital Cable Ready 1-2-3" labels for cable compatible DTV receivers.

A. Basic Requirements to be Labeled "Digital Cable Ready"

32. The proposed labeling rules prohibit consumer electronics manufacturers from marketing or labeling unidirectional digital cable televisions or products as digital cable ready unless they: (1) meet certain technical requirements relating to the tuning and navigation of NTSC analog and digital channels, (2) include a POD-Host interface, (3) respond to emergency alerts, and (4) have been certified to comply with certain normative requirements.[80] Under this regime, unidirectional digital cable televisions would also be required to employ specified interfaces according to a phased-in timetable.[81] The cable and consumer electronics industries are developing a label graphic that could be used in advertisements or on device packaging to reflect the compliance of the product with these criteria.[82] While the use of a label to physically mark digital cable ready products would be voluntary, consumer electronics manufacturers would be obligated to include in post-sale material, such as an owner's guide, language describing the features and functionality of unidirectional digital cable televisions.[83]

33. Many of the comments received in response to these labeling criteria advocate the addition of supplemental requirements in order for television receivers to be identified as digital cable ready. For the reasons set forth below, we add an over-the-air tuner requirement to the labeling criteria proposed to the Commission but otherwise decline to adopt the suggested modifications.

1. Over-the-Air Tuner

34 Broadcasters and content providers advocate that EIA/CEA-818D be added to the list of technical compliance standards applicable to digital cable ready televisions in order to

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would not be foreclosed from being labeled or marketed as digital cable ready devices, so long as they otherwise complied with the criteria set forth herein.

[80] *See generally*, Draft Technical Rules at 2-6 EFF suggests that the Commission also create a "basic tier ready" label for devices meeting the digital cable ready television definition, except for the requirement to have a POD-Host interface. EFF Comments at 5. The record in this proceeding, however, does not reflect sufficient need for a label distinguishing these devices from digital cable ready products. Indeed, a basic tier ready label could confuse consumers who identify cable readiness with extended basic service, which includes both the basic and cable programming services tiers

[81] Draft Technical Rules at 3-4.

[82] Cable/CE Response to Questions at 6

[83] Draft Technical Rules at 6. The relevant language states. "This digital television is capable of receiving analog basic, digital basic and digital premium cable television programming by direct connection to a cable system providing such programming A security card provided by your cable operator is required to view encrypted digital programming. Certain advanced and interactive digital cable services such as video-on-demand, a cable operator's enhanced program guide and data-enhanced television services may require the use of a set-top box For more information call your local cable operator." *Id.*

ensure that these devices have over-the-air reception capability.[84] Consumer electronics manufacturers have publicly committed to include off-air tuners in digital cable ready televisions.[85] The fact that the proposed phase-in of digital cable ready televisions with digital interfaces would be synchronous with the implementation roll-out of our tuner mandate suggests that consumer electronics manufacturers intend to abide by this commitment.[86] NCTA suggests, however, that an over-the-air tuner requirement in this context would be redundant, given the Commission's existing tuner mandate.[87] As we held in our *Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television* ("*DTV Tuner Order*"), all television receivers must include a digital broadcast tuner on a phased-in basis.[88] We therefore believe that the addition of a DTV off-air tuner requirement to the labeling requirements for digital cable ready televisions is appropriate.[89] In the analog environment, the public has come to understand that television receivers labeled or marketed as "cable ready" universally include the capability of receiving over-the-air broadcast service. We believe it would be inconsistent with consumer expectations and thus affirmatively misleading for digital cable ready receivers not to include digital over-the-air reception capability.

2. Closed Captioning

35. Broadcasters and content providers seek assurance that closed captioning display functionality will be built into digital cable ready televisions.[90] In reply, NCTA states that it would not object to a clarification by the Commission regarding the applicability of its digital closed captioning rules.[91] We concur with NCTA that the Commission's rules independently mandate that digital television receivers be able to decode and display closed captioning.[92] As a result, we need not incorporate a separate closed captioning mandate into the labeling criteria for digital cable ready televisions.

3. 1394 Interface

36. Broadcasters question why the proposed rules do not require televisions carrying the digital cable ready label to have a 1394 interface.[93] While the proposed rules call for the inclusion of a DVI or HDMI interface in digital cable ready televisions by specific rollout dates,

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[84] APTS Reply Comments at 2; Motion Picture Association of America Reply Comments at 15-16 ("MPAA Reply Comments"); NAB Comments at 2-3, 5-8, NAB Reply Comments at 2-6; Paxson Comments at 3-7, Sinclair Broadcast Group Inc. Comments at 1, 3-7; *see* EIA/CEA-818D, Cable Compatibility Requirements (EIA 2002) ("EIA/CEA-818D")

[85] CEA/CERC Reply Comments at 5.

[86] Draft Technical Rules at 3-4

[87] NCTA Reply Comments at 43-44; *see* 47 C.F.R. § 15.117(i).

[88] 17 FCC Rcd 15978 (2002).

[89] This requirement will follow the same phase-in schedule established in *DTV Tuner Order*.

[90] MPAA Reply Comments at 2-6, NAB Reply Comments at 6-7.

[91] NCTA Reply Comments at 47.

[92] *See* 47 C F R § 15.122

[93] NAB Comments at 5 n.6, APTS Reply Comments at 3 n.6

1394 interfaces would only be required on cable operator-supplied high definition set-top boxes [94] NAB expresses its concern that consumers purchasing digital cable ready televisions without 1394 interfaces will be frustrated in their attempts to connect to digital VCRs and other digital devices.[95] In response, NCTA states that 1394 interfaces should not be required and instead market forces should determine the future acceptance of 1394 as a connector.[96] NCTA further clarifies that the inclusion of 1394 interfaces on high definition set-top boxes is intended to preserve the functionality of existing digital devices that use the interface.[97]

37. It is our belief that the requirement for digital cable ready televisions to have either a DVI or HDMI interface sets a floor for digital cable compatibility without unnecessarily impeding innovation. It should be noted in this regard that the labeling regime is being used here as a convenient procedural mechanism for phasing in a set of connectors that are needed to accomplish the equipment compatibility purposes of Section 624A. We recognize that the DVI or HDMI outputs may only be available with a percentage of the digital cable ready devices manufactured and do not intend that, prior to the completion of the phase-in, the digital cable ready label be interpreted as signifying the presence of these outputs. We anticipate that the marketplace will determine which additional connectors are best for use with digital cable ready televisions and associated products and therefore decline to mandate a 1394 or other connector interface.[98] As discussed below, we are establishing an interim mechanism and seeking further comment on a permanent mechanism by which additional connectors can be approved for use in digital cable products, subject to FCC oversight where disputes arise. We believe that this approach will foster competition among MVPDs and promote interoperability.[99]

B. Compliance Certification Process

38. A prerequisite for the use of the digital cable ready designation under the draft labeling rules is certification for compliance with certain normative requirements. The proposed rules anticipate that a manufacturer must submit a prototype of its first unidirectional digital cable product model to CableLabs or an independent qualified test facility to ensure conformity with specific technical standards.[100] The test suite to be applied is intended to demonstrate that the subject device: (i) can tune and display scrambled digital services via the POD conditional access system; (ii) will not technically disrupt, impede, or impair delivery of services to cable subscribers; (iii) will not cause physical harm to the cable network or the POD module; (iv) will not facilitate theft of service or otherwise interfere with reasonable actions taken by cable operators to prevent theft of service; (v) will not jeopardize the security of any services offered over the cable system; (vi) will not interfere with or disable the ability of a cable operator to

[94] Draft Technical Rules at 2-4. The connector interface requirements for televisions to be labeled digital cable ready include either. (1) a DVI or HDMI interface, or (2) a Y,Pb,Pr component interface. The phase-in schedule would range from July 1, 2004, for 50% of 480p grade television models with screen sizes 36 inches and above, to July 1, 2007, for 100% of 720p/1080i grade television models with screen sizes 13 to 24 inches *Id.* at 3-4

[95] NAB Comments at 5 n.6

[96] NCTA Reply Comments at 35

[97] *Id*

[98] *See e g*, PK & CU Comments at 3; Intel Comments at 8-12, EchoStar Reply Comments at 7

[99] *See* EchoStar Reply Comments at 4, 7, NCTA Reply Comments at 39-40

[100] Draft Technical Rules at 4-6, *see* SCTE 40 2003; ANSI/SCTE 28 2003; SCTE 41 2003

communicate with or disable a POD module or to disable services being transmitted through a POD module, or (vii) will not impede or impair control of content protection.[101] The specific tests comprising the test suite were jointly agreed to by representatives of the cable and consumer electronics industries.[102] The test suite would be executed by CableLabs or an independent qualified test facility for the first unidirectional digital cable product model developed by a manufacturer. Once this first model successfully completed the applicable test suite, self-certification procedures would apply for subsequent models.[103]

39. We hereby adopt the proposed certification procedures with certain revisions as set forth in Appendix B. In so doing, we recognize that the scope of this process is limited in so far as it (1) verifies compliance with specific normative standards to ensure the functionality and compatibility of unidirectional digital cable products with digital cable systems, and (2) allows for manufacturer self-certification procedures once an initial product model has been certified by a qualified test facility Although we anticipate that CableLabs, or another organization similarly associated with the cable industry, will initially have a key role in this certification compliance process due to its familiarity and expertise with POD-Host interface technology, the public availability of the test protocol should allow third party testing facilities to certify compliance therewith. Our revisions to the proposed rules reflect this expectation. Any entity that executes the test protocol must do so in a reasonable and non-discriminatory manner. We will monitor the implementation of this certification compliance process to ensure it comports with these principles. Should any party have complaints regarding this implementation, or the certification test suite itself, we will consider them on a case-by-case basis. We will also review the standards in this section on a periodic basis to determine whether to sunset or amend the regulations adopted herein in light of changes in technology or other public interest factors.

C. Relation to Existing Labeling Requirements

40. We are adopting the proposed labeling and consumer disclosure requirements to promote consumer awareness and education about the DTV transition and the functionality of unidirectional digital cable televisions and products and their compatibility with digital cable systems.[104] We recognize that the Commission previously adopted a series of labels for digital cable compatible receivers. This "Digital Cable Ready 1-2-3" regime, however, has not yet been employed in the marketplace and may not encompass the full range of anticipated unidirectional digital cable devices.[105] In an effort to eliminate any confusion, we hereby eliminate the existing Digital Cable Ready 1-2-3 labels and grant the petitions for reconsideration filed by NCTA and Time Warner Cable in response to our earlier *Report and Order* in our *Compatibility Between*

[101] Draft Technical Rules at 4.

[102] *See* Uni-Dir-PICS-I01-030903: Uni-Directional Receiving Device Conformance Checklist: PICS Proforma (2003)

[103] Draft Technical Rules at 5-6

[104] Our approval of the proposed labeling and consumer disclosure regime is not intended to limit or foreclose any action that may be taken pursuant to the Notice of Proposed Rulemaking recently issued in our DTV Second Periodic Review Proceeding. *See Second Periodic Review of the Commission's Rules and Policies Affecting the Transition to Digital Television,* 18 FCC Rcd 1279, 1314-15 (2003) ("*DTV Second Periodic Review NPRM*")

[105] *See* 47 C.F.R § 15 19(d)(2)

Cable Systems and Consumer Electronics Equipment docket.[106]

41. We anticipate that this labeling regime and consumer disclosure requirements will provide consumers with basic compatibility information about digital cable ready televisions and products. We remain concerned, however, that the voluntary nature of the labeling regime and the fact that a clear statement of a unidirectional digital cable television's functionalities is only provided in post-sale material may not aid consumers in making purchasing decisions. In particular, we believe that the digital cable ready designation, absent further clarification or explanation, may cause consumer confusion because it does not indicate that a set-top box will be needed to receive interactive services. As discussed above, we expect that the cable industry will fulfill and expand upon its voluntary commitments in the MOU to ensure that subscribers and local retailers are both aware of the availability of digital cable service in their area and of the compatibility of unidirectional digital cable products with operators' systems.[107] The MOU, however, also reflects an understanding that consumer electronics manufacturers need not provide retail or pre-sale consumer notification information.[108] We strongly believe that it is incumbent upon the consumer electronics industry to collaborate with both their retail partners and the cable industry to develop consumer awareness campaigns about unidirectional digital cable televisions and their functionalities, particularly with regard to the need for set-top boxes in order to receive interactive services. Information could be disseminated to consumers in many different ways, including but not limited to cable subscriber notices, Internet web sites, point of sale marketing materials to be provided to retailers, more informative labeling on device packaging, or some other appropriate format designed to reach consumers before they make purchasing decisions. We will also seek comment in the *Second Further Notice of Proposed Rulemaking* on whether some form of pre-sale consumer notification should be required.

V. ENCODING RULES

42. In addition to the draft technical and labeling rules, the cable and consumer electronics industries submitted draft encoding rules to the Commission that propose: (1) a ban on selectable output control, (2) a prohibition on the down-resolution of broadcast programming, and (3) the adoption of caps on copy protection encoding for different categories of MVPD programming. Below we discuss our authority to adopt such encoding rules, and address each of the three proposals.

43. At the outset, we recognize that members of the DBS industry assert that because they did not participate in the MOU negotiations, they should not be made subject to encoding rules that do not adequately address their interests.[109] We disagree. The negotiations between cable and consumer electronics industries sought to establish a specification for unidirectional digital cable televisions and products – issues specific to their industries. The proposed encoding rules were developed as part of those negotiations. The entire MOU, including the proposed encoding rules and other draft regulations contained therein, were incorporated into our *Further Notice* and put out for public notice and comment.[110] Indeed, both EchoStar and DIRECTV (the

[106] *Digital Compatibility Report and Order*, 15 FCC Rcd at 17568

[107] *See* Section III E, *supra*; *see also* MOU at 9.

[108] MOU at 7.

[109] DIRECTV Comments at 4-6; EchoStar Reply Comments at 9.

[110] *Further Notice*, 18 FCC Rcd at 531-609

"DBS providers") filed comments in response to the *Further Notice* on this particular issue As discussed in greater detail below, we conclude that the arguments advanced by the DBS providers are insufficient to outweigh the need for competitive parity among MVPDs.

44. We also acknowledge the concerns articulated by content providers that the proposed encoding rules would prevent or inhibit the use of other content protection mechanisms.[111] We do not interpret the draft rules in this fashion. The proposed rules specifically prohibit the encoding of audiovisual content to trigger selectable output control, the down-resolution of broadcast programming, or to prevent or limit copying except as permitted for the applicable programming category.[112] As such, we do not believe that these proposed requirements necessarily preclude the use of other content protection measures.

A. Commission Authority Under Section 629

45. The Commission has authority to adopt the proposed encoding rules under the explicit authority granted in Section 629 of the Communications Act as well as our ancillary jurisdiction thereunder.[113] We also conclude that our ancillary jurisdiction would extend the scope of Section 624A of the Communications Act to encompass non-cable MVPDs.[114]

46. The mandate of Section 629 is broad. As discussed above, it requires the Commission to assure the commercial availability of navigation devices – meaning that the Commission must persist in its efforts until commercial availability is achieved.[115] Section 629 subjects all MVPDs to its requirements, including cable operators, DBS providers, multichannel multipoint distribution service operators and satellite master antenna television providers.[116] Although DBS providers were exempted from the separate security requirement imposed on cable in our *Navigation Devices Order* because DBS equipment is already available at retail and is portable nationwide, the Commission expressly found that it did not have the authority to exclude DBS from the reach of Section 629 generally.[117] Section 629 also applies to any type of equipment used to access MVPD programming and services, including televisions, VCRs, cable

[111] MPAA Reply Comments at 10; National Music Publishers' Association, *et al* Comments at 4-6, 8-9 ("NMPA Comments"), NMPA Reply Comments at 2

[112] Draft Encoding Rules at 5.

[113] 47 U S.C. § 549(a)

[114] *Id.* § 544A

[115] Section 629 directs the Commission to "adopt regulations to assure the commercial availability, to consumers of multichannel video programming and other services offered over multichannel video programming systems, of converter boxes, interactive communications equipment, and other equipment used by consumers to access multichannel video programming and other services offered over multichannel video programming systems." *Id.* § 549(a)

[116] *Navigation Devices Order*, 13 FCC Rcd at 14782-84. The only MVPDs not subject to the requirements of Section 629 are open video system operators, as a consequence of a specific exclusion in the Communications Act. *Id* at 14783-84

[117] *See id* at 14800-02, 14819 (finding that Congress did not exclude DBS from the reach of Section 629, and that the "sunset criteria" of Section 629(e) had not been met because the market for MVPD services is not fully competitive), *Order on Reconsideration,* 14 FCC Rcd at 7613-14

set-top boxes, personal computers, program guide equipment and cable modems.[118] On this basis, we conclude that the scope of Section 629 encompasses all MVPDs and authorizes the Commission to adopt regulations that aim to ensure the commercial availability of a wide range of consumer electronics equipment used in conjunction with MVPD systems.

47. In our *FNRPM and Declaratory Ruling*, the Commission found that Section 629's mandate encompasses copy protection in so far as we determined that the inclusion of some measure of anti-copying encryption technology within a host device does not violate our separation of security requirement.[119] The Commission, however, specifically declined "to resolve the question of the nature and scope of any copy protection systems or rights."[120] While the Commission's copy protection findings in the *FNPRM and Declaratory Ruling* were limited in nature, we recognized that other copy protection issues would arise in the DTV transition.[121] In particular, we noted that:

> [W]e do not intend this declaratory ruling to signal that any terms or technology associated with such licenses and designated as necessary for copy protection purposes are consistent with our rules. We believe, however, that such issues are best resolved if specific concerns involving finalized licenses that implicate our navigation devices rules are presented to the Commission [122]

By stating that some amount of copy protection might be acceptable but not necessarily specifying the applicable terms or technology, the Commission indicated its willingness to assess the reasonableness of particular copy protection proposals. We believe that the draft encoding rules proposed to the Commission are an essential component of the MOU that will assure the commercial availability of navigation devices and strike a measured balance between the rights of content owners and the home viewing expectations of consumers Absent adoption of these encoding rules, the cable and consumer electronics industries have indicated that the compromise agreement reached in the MOU will be upset and their efforts to produce unidirectional digital cable products will falter.[123] The resulting harm would directly undermine the explicit goal of Section 629, to assure the commercial availability of navigation devices We therefore conclude that adoption of the proposed encoding rules is necessary to fulfill our mandate under Section 629.

48. We disagree with the objections raised to Commission jurisdiction under Section 629. MPAA, which opposes FCC jurisdiction over the proposed encoding rules, argued prior to the *FNPRM and Declaratory Ruling* that copy protection is integral to conditional access and that the Commission should therefore affirm that such measures can be required in host devices.[124]

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[118] *Navigation Devices Order*, 13 FCC Rcd at 14784-86 ("[W]e believe that Section 629 is intended to result in the widest possible variety of navigation devices being commercially available to the consumer.").

[119] *FNPRM and Declaratory Ruling*, 15 FCC Rcd at 18209.

[120] *Id* at 18211

[121] *Id.* at 18212

[122] *Id* at 18211 (footnote omitted)

[123] Cable/CE Letter at 3; MOU at 1.

[124] *See* Letter from Fritz Attaway, Senior Vice-President, Government Relations, MPAA, to Magalie R. Salas, Secretary, FCC at Attachment (Sep. 6, 2000)

MPAA now asserts that the Commission should not involve itself in the reasonableness of the copy protection measures.[125] This may be a colorable policy argument, but it does not bear on the Commission's statutory authority.

49. MPAA also contends that Section 629(b) prohibits the Commission from adopting the proposed encoding rules.[126] We disagree. Section 629(b) provides that:

> The Commission shall not prescribe regulations under subsection (a) which would jeopardize security of multichannel video programming and other services offered over multichannel video programming systems, or impede the legal rights of a provider of such services to prevent theft of service.[127]

50. We interpret the statute in the context of its purpose We believe that in including Section 629(b)'s "Protection of System Security" provision, Congress was concerned about preventing system security in terms of theft of service, that is, preventing a non-subscriber from obtaining unauthorized access to multichannel video programming or other services. Section 629(b) is expressly directed at the protection of *system* security and the prevention of theft of service.[128] The legislative history likewise indicates Congress' focus on the protection of *system* security and theft of service[129] There is nothing in either the statutory language or the legislative history to suggest that Congress intended Section 629(b) to extend to content protection technologies for programming that a subscriber properly had access to.

51. Unlike the copy protection technology at issue in the *FNPRM and Declaratory Ruling,* which was directly related to cable operator system security as a part of the POD and POD-Host interface, the draft encoding rules here involve the encoding of content to activate copy protection technologies associated with device outputs and connectors. We believe that to the extent the encoding rules relate to device outputs and associated content protection technologies, they do not implicate theft of service or harm to network concerns. This distinction goes to the heart of our navigation device rules MVPDs have a direct interest in ensuring that a consumer's right to attach navigation devices to their system does not result in theft of service or harm to the MVPD network.[130] Copy protection, however, goes to the question of what end users may do with content legally acquired for a limited use The fact that device outputs and associated content protection technologies do not implicate theft of service or harm to network concerns permits Commission adoption of the encoding rules and would not run afoul of Section 629(b).

52. Even if Section 629(b) applied to content protection, we conclude that the rules

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[125] MPAA Comments at 12-13

[126] MPAA Reply Comments at 9

[127] 47 U S.C. § 549(b).

[128] *Id.* § 549(b)

[129] *See, e g*, H.R. Conf Rep No 458, 104th Cong , 2nd Sess , at 181 (1996) (recognizing that "cable .. system operators have a valid interest, which the Commission should continue to protect, in system or signal security and in preventing theft of service and therefore, the Commission may not prescribe regulations which would jeopardize signal security or impede the legal rights of a provision to preempt theft of service").

[130] 47 C F.R § 76.1201

we are adopting will not jeopardize the security of copyrighted programming or impede the legal rights of MVPDs to prevent theft of programming. As discussed above, the encoding rules are not directed at content owners, allowing them to exercise their existing statutory rights and remedies under copyright law. MVPDs retain control over their conditional access systems, subject to the separation of security requirements contained in our navigation device rules. In interpreting these rules in the *General Instrument* case, the D.C. Circuit held that "jeopardize" does not mean that any increased security risk is barred by Section 629(b); rather, a petitioner must present evidence that system security will be subject to "serious or significant danger."[131] The record lacks any substantive evidence that would meet the *General Instrument* standard. Indeed, because the encoding rules do not implicate access to programming or services, they do not constitute a "serious or significant danger" within the meaning of Section 629(b) as interpreted by *General Instruments*.

53. We note that not a single MVPD – including DBS providers whose system security would theoretically be threatened by the proposed rules – argued that the Commission is prohibited from adopting encoding rules under Section 629(b). MVPDs will retain control and ownership of the security equipment for their systems. The draft encoding rules would in no way authorize or justify any use, manufacture, or importation of equipment that would violate Section 633 of the Communications Act[132] or any other provision of law precluding the unauthorized reception of MVPD service. Further, the labeling rules and associated compliance certification procedures that we are adopting require manufacturers to demonstrate that their equipment will not jeopardize the security of any services offered over cable systems or interfere with measures to prevent theft of service.

54. Although some commenters argue that our adoption of the encoding rules would impermissibly involve the Commission in copyright issues, we do not believe this to be the case.[133] Communications law and copyright law can create independent rights – even with respect to the distribution of the same content. The Commission's "syndicated exclusivity"[134] and retransmission consent rules each create sets of rights and limitations that exist independent of the underlying copyrights.[135] In the instant case, the encoding rules are not directed at the copyright owners, but rather establish certain limits on the technological tools used by MVPDs to distribute content.[136] A content owner's rights under copyright law, as well as determinations of what constitutes infringement and affirmative defenses such as "fair use," are set by statute and interpreted on a fact-specific basis by the courts.[137] We nonetheless recognize that the line

[131] *General Instrument*, 213 F 3d at 731 (citing definition of "jeopardize" as "to expose to danger (as of imminent loss, defeat, or serious harm)· IMPERIL")

[132] *See* 47 U S C § 553

[133] *See* MPAA Comments at 12-13; MPAA Reply Comments at 8-10; NMPA Reply Comments at 6 n.9, 11-17.

[134] *See United Video, Inc v FCC*, 890 F 2d 1173 (D C. Cir 1989) (upholding FCC authority to promulgate syndicated exclusivity rules while noting "interplay between copyright and communications law") ("*United Video*")

[135] NCTA Reply Comments at 48.

[136] *Id*

[137] *See, e g*, 17 U.S.C. § 107 ("fair use"); *Piracy Prevention and the Broadcast Flag Before the House Subcomm on Courts, the Internet and Intellectual Property, Comm on the Judiciary*, 4-10 (Mar. 6, 2003) (statement of Mary Beth Peters, Register of Copyrights).

separating communications law and copyright law is not always a clear one. As the *United Video* court found with respect to cable television, "the 1976 Congress did not imagine copyright law and communications law to be two islands, separated by an impassable sea."[138] We will continue to be sensitive to this intricate and complex issue as we implement Section 629.

55. In addition to explicit authority under Section 629, we believe that the Commission has ancillary jurisdiction to adopt the proposed encoding rules.[139] As discussed above, the Commission has been working to achieve Section 629's mandate of commercial availability of navigation devices since 1996. One of the stumbling blocks has been inability of industry to agree on a comprehensive set of technical copy protection measures and corresponding encoding rules. Adoption of the encoding rules will finally remove that block and ensure the availability of high value content to consumers in a protected digital environment. We believe that access to high value digital content will spur the transition and increase consumer demand for unidirectional digital cable products and other navigation devices at retail, thereby furthering Section 629's goals. The adoption of rules applicable to MVPD content distribution falls within the Communication Act's mandate over "all interstate and foreign communication by wire or radio,"[140] and the Commission's broad authorization "to make available to all Americans a radio and wire communication service."[141] In furtherance of these goals, the Commission can adopt regulations that are consistent with the public interest and not inconsistent with other provisions of the Communications Act or other law.[142] Not only are the encoding rules "not inconsistent" with other provisions of the Act or law, we believe they will significantly advance Section 629's stated goal.[143]

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[138] *United Video*, 890 F.2d at 1184.

[139] 47 U.S.C. §§ 151, 152(a), 154(i), 303(r). Contrary to the assertions of some commenters, the recent *MPAA v FCC* decision does not restrict our ancillary authority here *MPAA v FCC*, 309 F.3d 796, 807 (D.C. Cir. 2002). In that case, the court found that the Commission lacked authority to adopt video description rules because: (1) the regulations significantly affected program content; and (2) Congress specifically authorized and ordered the FCC to produce a report on video description – "nothing more, nothing less." Neither of these conditions applies in this case. Our mandate under Section 629 specifically requires us to adopt regulations assuring the commercial availability of navigation devices. Further, the encoding rules apply to the distribution of content rather than its substance For example, the caps on copy protection mechanisms are not set on a program-by-program basis, rather, they are set for existing and future "business models" which represent different distribution channels by which programming is marketed. This structure is agnostic as to the content of programming – the same programming could be distributed by various business models and in each instance would be subject to a different copy protection cap depending on the applicable distribution model For example, a movie available on a video-on-demand service could be encoded "copy never," but the same movie could only be encoded up "copy one generation" if it were offered on a non-premium subscription service

[140] *Id.* § 152(a)

[141] *Id* § 151.

[142] *See, e g , United States v Southwestern Cable Co* , 392 U.S 157, 172 (1968) ("[I]t was precisely because Congress wished to maintain, through appropriate administrative control, a grip on the dynamic aspects of radio transmission . . . that it conferred upon the Commission a unified jurisdiction and broad authority.") (citations, footnote and internal quotations omitted); *United States v Midwest Video Corp* , 406 U S 649, (1972) ("*Midwest Video*").

[143] *See, e g , Midwest Video*, 406 U.S. at 667-68 ("The critical question . . . is whether the Commission has reasonably determined that its origination rule will 'further the achievement of long-established regulatory goals in the field of television broadcasting' ") (citation omitted).

56. In addition to explicit authority under Section 629 and our ancillary jurisdiction thereunder, we believe that adoption of the encoding rules will also advance the policies underlying Section 624A of the Communications Act.[144] Section 624A requires the Commission to issue regulations to assure the compatibility between televisions and video cassette recorders and cable systems in a manner consistent with the need to prevent theft of cable service.[145] The end goal is to ensure that cable subscribers will be able to enjoy the full benefits of available cable programming and the functionality of their televisions and video cassette recorders.[146] To accomplish this balancing act, Section 624A directs the Commission to "determine whether and, if so, under what circumstances to permit cable systems to scramble or encrypt signals or restrict cable systems in the manner in which they encrypt or scramble signals."[147]

57. Section 624A by its terms does not directly apply to MVPDs other than cable operators.[148] However, the MVPD market has diversified greatly since 1992. For example, DBS did not exist at the time when Section 624A was enacted, but has since grown to serve approximately twenty percent of the MVPD marketplace.[149] In order to accomplish the purposes of Section 624A, we believe that the Commission may exercise ancillary jurisdiction over non-cable MVPDs in order to avoid the creation of a regulatory and marketplace imbalance between cable and DBS. Absent this approach, we believe that cable operators would be at a significant competitive disadvantage in obtaining access to content which could frustrate the ability to satisfy Section 624A's mandate.[150] We therefore believe it will further the goals of Section 624A to apply the proposed encoding rules to all MVPDs.

B. Selectable Output Control

58. As proposed to the Commission, the draft rules would prohibit MVPDs from encoding or otherwise modifying audiovisual content so as to activate selectable output control, which is the ability to remotely shut off a particular output or connector on a program-by-program basis, thereby funneling content through other authorized outputs.[151] Advocates of this technology argue that it is a useful tool to address potential piracy concerns because it: (1) allows MVPDs to respond in cases where protected digital outputs have been compromised; and (2) permits content to be directed away from unprotected high-resolution analog ("component

[144] 47 U S C § 544A

[145] *See id.* §544A(b)(1)

[146] *See id* §544A(b)(1).

[147] *Id.* § 544A(b)(2)

[148] *See e g*, EchoStar Reply Comments at 5-6

[149] DBS service was launched commercially in 1994, two years after Section 624A was adopted. *See In the Matter of Policies and Rules for the Direct Broadcast Satellite Service*, 17 FCC Rcd 11331, 11335 (2002). *See also In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, 17 FCC Rcd 26901, 26975 (2002) (DBS serves approximately 20% of MVPD marketplace)

[150] *MCCA v FCC*, 77 F 3d 1399, 1404-07 (1996) (upholding Commission authority under Section 4(i) to require pioneer's preference holder to pay discounted price, rather than no payment, in order to preserve market fairness, given competitors would be required to buy license at auction).

[151] Draft Encoding Rules at 5; *see* CEA/CERC Comments at 18

analog") outputs[152]

59. Critics of selectable output control, including consumer electronics interests, contend that it is an *ad hoc* imposition on consumers that must be prohibited to ensure the functionality of unidirectional digital cable products.[153] Consumer groups agree that selectable output control should be prohibited, particularly since it could harm the marketability of recordable digital interfaces in favor of non-recordable ones.[154] The cable industry further advocates that the proposed ban apply to all MVPDs in order to ensure a level playing field in negotiations for premium content acquisition.[155]

60. The issue of selectable output control – like the issue of down-resolution discussed below – involves a difficult balancing of interests. On one hand, we recognize content owners' legitimate interest in protecting their content from piracy. We also recognize consumers' expectations that their digital televisions and other equipment will work to their full capabilities, and the potential harm to the DTV transition if those expectations are frustrated. In particular, we are concerned that selectable output control would harm those "early adopters" whose DTV equipment only has component analog inputs for high definition display, placing these consumers at risk of being completely shut off from the high-definition content they expect to receive. Further, we believe that content providers have other means of revoking compromised digital outputs. As recognized by the consumer electronics industry, technological and licensing mechanisms exist which permit MVPDs to revoke compromised security modules and output technologies if needed.[156] We are also proposing in our *Second FNPRM* to create a formal mechanism by which outputs may be revoked if compromised.[157] We therefore believe that MVPDs will in no way be harmed in their ability to protect content where output technologies have been compromised. As to the issue of analog outputs, we anticipate that alternative mechanisms such as retirement and the potential use of down-resolution could more effectively address content providers' concerns without entirely foreclosing functionalities available to early adopters.

61. We conclude that at present the balance tips in favor of prohibiting the use of selectable output control by MVPDs and hereby adopt the prohibition as set forth in Appendix B. We also believe that the ban on selectable output control logically should apply uniformly to all

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[152] MPAA Reply Comments at 13-15. MPAA has disclaimed an interest in using selectable output control to choose among protected digital connectors like 1394/5C and DVI/HDCP

> Although the concept of selectable output controls was discussed a few years back in the 5C license discussions, *MPAA and its member companies are not seeking in the 5C license or in the OpenCable PHILA context the ability to turn off the 1394/5C digital interconnect in favor of a DVI/HDCP interconnect through a selectable output control mechanism*

Letter from Fritz E Attaway, Senior Vice President Government Relations, MPAA, to Chairman W.J. Tauzin, House Committee on Energy and Commerce and Chairman Fred Upton, House Subcommittee on Telecommunications and the Internet (Mar. 20, 2002) (emphasis in original)

[153] *See* CEA/CERC Reply Comments at 10.

[154] EFF Reply Comments at 10-11; HRRC Comments at 6-10.

[155] Comcast Comments at 13-14; Comcast Reply Comments at 9, NCTA Reply Comments at 15

[156] CEA/CERC Reply Comments at 18.

[157] *See* Section VII.

MVPDs in order to ensure that consumer expectations are not unreasonably frustrated regardless of the MVPD platform to which they subscribe A prohibition is also necessary to ensure the DTV transition is able to proceed in an expeditious manner without concerns over connectivity and functionality forestalling digital equipment acquisition. We nonetheless recognize that selectable output control functionality might have future applications that could potentially be advantageous to consumers, such as facilitating new business models,[158] and will consider waivers, petitions or other proposals to use selectable output control in this regard. For this reason, we do not prohibit the inclusion in devices of the *capability* to exercise selectable output control, only the current *use* of such capability by MVPDs.[159]

C. Down-resolution

62. The ability of MVPDs to constrain content resolution when output from consumer electronics devices, also called "down-resolution," refers to the ability to degrade the resolution of content from a higher to a lower level, such as from high definition to standard definition. The consumer electronics industry acknowledges that down-resolution has been required in private agreements, such as the Digital Transmission Content Protection ("DTCP" or "5C") license, where component analog outputs are used as secondary ports to feed high definition digital recorders.[160] They nonetheless express concern that if an MVPD were to trigger down-resolution on the primary signal link between set-top boxes and high definition displays at the request of a content provider, consumers would be denied the very functionality that led them to invest in DTV devices – the ability to enjoy high definition programming.[161] Consumer groups concur with this assessment and advocate a ban on down-resolution.[162] The cable industry expresses its willingness to accede to this prohibition if applied to all MVPDs in order to ensure the availability of high value content and competitive parity among programming providers.[163] In contrast, however, DIRECTV and MPAA assert that MVPDs should have multiple content protection mechanisms available to them, including down-resolution, in order to best address the needs of content providers and consumers.[164] MPAA is in essence advocating that down-resolution will serve to provide consumers with greater access to programming than would otherwise be available absent some mechanism for addressing analog outputs.

63 As a result of their negotiations over the MOU, the consumer electronics and cable industries reached an agreement that broadcast programming should not be subject to down-resolution, but made no recommendation to the Commission on the issue of how other MVPD programming should be treated.[165] The cable industry expresses its concern that content

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[158] *See* Letter from Fritz Attaway, MPAA to Marlene Dortch, Secretary, FCC (Aug. 29, 2003) (arguing that the Commission should permit the use of selectable output control with respect to analog outputs to protect high value content)

[159] Parties have noted that this may involve changes in the model DFAST license.

[160] CEA/CERC Comments at 20.

[161] *Id.*

[162] CFA Reply Comments at 5-6, EFF Reply Comments at 10-11; HRRC Comments at 6-10; HRRC Reply Comments at 9-10, 17, PK & CU Comments at 4-5, 10, 16-17.

[163] NCTA Reply Comments at 3.

[164] DIRECTV Comments at 7; MPAA Reply Comments at 13-15.

[165] Draft Encoding Rules at 5

providers will not make high value non-broadcast content available unless MVPDs can lower its resolution over component analog outputs and suggests that the Commission should evaluate the resulting impact upon consumers when making a determination on this issue.[166] To the extent that the Commission determines that permitting the down-resolution of high value non-broadcast content delivered over analog outputs is the only means of assuring that such content will be made available to MVPDs and consumers, the cable industry would support adoption of rules to that effect.[167] In contrast, HRRC and CEA join consumer groups in advocating a complete ban on down-resolution, including non-broadcast content, to ensure that consumers are able to fully enjoy the high definition capabilities of their consumer electronics equipment.[168]

64. The issue of down-resolution involves a similar balancing of interests to selectable output control, although in this instance consumers with analog outputs on their equipment would potentially receive a lower quality, but still viewable, picture rather than a blank screen. As in the case of selectable output control, we are concerned that consumer expectations regarding the functionality of their digital cable ready televisions and related products would be frustrated by the use of down-resolution by MVPDs. We are equally mindful of the concerns of content providers regarding the potential vulnerability of content delivered over analog outputs. The difficulties of resolving this issue are reflected in private sector efforts such as the Analog Reconversion Discussion Group to the Copy Protection Technical Working Group.[169] Because broadcast television is a free, over-the-air service and high definition content will otherwise be available through off-air reception, we believe that a ban on the down-resolution of broadcast programming by MVPDs is consistent with both consumer expectations and the nature of this service.[170] The record in this proceeding, however, does not support a similar conclusion with respect to non-broadcast programming provided by MVPDs.[171] As a result, we will seek additional comment on the issue of down-resolution of non-broadcast programming in the *Second Further Notice of Proposed Rulemaking* below. Should an MVPD wish to activate the down-resolution of non-broadcast programming in the interim, notification must be provided to the Commission at least 30 days in advance of such activation

D. Limits on Copy Protection Encoding

65. The final component of the proposed encoding rules is comprised of caps on the

[166] NCTA Comments at 26; Comcast Comments at 6-7, n.7

[167] NCTA Comments at 26-27, Comcast Comments at 6-7, n 7.

[168] CEA/CERC Comments at 19-20; CEA/CERC Reply Comments at 22, HRRC Comments at 6-10; HRRC Reply Comments at 9-10, 17; CFA Reply Comments at 5-6, EFF Reply Comments at 10-11, PK & CU Comments at 4-5, 10, 16-17; *see* Letter from Robert Schwartz, Counsel to HRRC, McDermott, Will & Emery, to Marlene Dortch, Secretary, FCC (July 29, 2003)

[169] MPAA Comments at 11-12, NCTA Comments at 26.

[170] MVPD down-conversion of digital programming in connection with mandatory carriage rules is outside the scope of this proceeding. The relationship between the encoding and the must carry rules will be addressed as needed in our *Carriage of the Transmission of Digital Television Broadcast Stations* proceeding in Docket Nos CS 98-120, 00-96 and 00-2.

[171] Our prohibition on the down-resolution of broadcast programming is not intended to prohibit the inclusion of this functionality in devices Parties have noted that this may involve changes in the model DFAST license

level of copy protection that may apply to various categories of MVPD programming.[172] These proposed caps do not obligate the encoding of programming with copy restrictions, nor do they prescribe a specific level of copy protection for particular programs. MVPDs would remain free to negotiate with content providers for any level of encoding that falls below or is equal to the applicable cap for the relevant programming category, which is referred to in the draft rules as a "Defined Business Model."[173] The defined business models and corresponding copy protection caps proposed in the draft rules include:

(1) Unencrypted broadcast television – no copy restrictions may be imposed;

(2) Pay television, non-premium subscription television, and free conditional access delivery transmissions – one generation of copies is the most stringent restriction that may be imposed; and

(3) VOD, PPV, or Subscription-on-Demand transmissions – no copies is the most stringent restriction that may be imposed, however, even when no copies are allowed, such content may be paused up to 90 minutes from its initial transmission.[174]

66. These defined business models are intended to reflect the conventional methods for packaging programming content in the MVPD market as of December 31, 2002.[175] To the extent that an MVPD wishes to implement a new service within a defined business model, other than unencrypted broadcast television, and seeks to modify the established encoding rule applicable to that business model for their specific service, it would be able to petition the Commission in order to do so.[176] Such petitions would be subject to public notice and comment and the Commission would be required to consider the potential impact of the proposed change upon consumers and the public interest.[177] Out of a recognition that this process could provide rival MVPDs with a competitive advantage by forecasting in advance new services and products, the draft rules allow for a temporary bona fide trial of a service.[178] To ensure that this trial provision is not abused, complaints may be filed when an MVPD has a good faith belief that a new service within a defined business model has been launched without petitioning the Commission.[179]

67. The proposed rules also contemplate a process by which MVPDs could seek encoding classification for new program offerings that do not fall under the defined business models.[180] Concurrent with the launch of such an offering, which is referred to in the draft rules as an "Undefined Business Model," an MVPD would provide public notice of the new offering and its

[172] Draft Encoding Rules at 1-10.

[173] *Id.* at 2, 5

[174] Draft Encoding Rules at 5.

[175] *Id.* at 6

[176] *Id.* at 5-7.

[177] *Id*

[178] *Id* at 10

[179] *Id.* at 7.

[180] *Id* at 8-10

proposed encoding terms to the PR Newswire.[181] Within two years of the publication of this notice and following attempts at pre-complaint resolution, another MVPD or a consumer electronics manufacturer could file a complaint with the Commission objecting to the proposed encoding classification.[182] This complaint process would be subject to public notice and comment and place the burden of proof on the undefined business model proponent to establish that the proposed encoding terms are in the public interest.[183] In making its determination resolving the complaint, the Commission would be required to consider consumer interests among other factors.[184]

68. Critics of the proposed encoding caps express concern over. (1) the effect on innovation resulting from the creation of FCC rules in this area;[185] (2) their applicability to non-cable MVPDs;[186] (3) the specific procedures outlined for modification of existing or creation of new encoding classifications;[187] and (4) the classification of subscription video-on-demand ("SVOD") service in the broadest cap category which allows "copy never" encoding.[188] In response, proponents of the caps assert that they reflect a reasoned balance between the expectations of consumers regarding their home viewing habits and the functionality of their digital devices and the interests of content owners in protecting high quality digital content from piracy.[189] While we acknowledge the challenges and concerns raised by commenters, we are ultimately persuaded that FCC oversight in this area will ensure a fair balance between the competing interests at stake, and in turn will foster the development of a commercial market in navigation devices and further the DTV transition.

69. The proposed encoding caps themselves closely track those adopted by Congress in the analog context in Section 1201(k) of the Digital Millennium Copyright Act ("DMCA"), with certain subsequent industry-negotiated modifications taken from the 5C technology license.[190] While MPAA challenges the use of Section 1201(k) and the private 5C license as models in this instance, the record reflects that some MPAA member studios have acceded to the license and that the rules contained therein reflect a marketplace-developed paradigm for approaching copy protection in the digital realm.[191] In approving the proposed encoding caps, however, we do not rely

[181] *Id.* at 8. The PR Newswire is an independent organization that provides news targeting, distribution and measurement services in 135 countries. *See* <www.prnewswire.com>

[182] Draft Encoding Rules at 8.

[183] *Id.* at 9

[184] *Id.* at 9-10.

[185] CFA Reply Comments at 4-5, MPAA Comments at 3-9; MPAA Reply Comments at 2-5, 10; NMPA Comments at 3-9; PK & CU Comments at 3-8; Veridian Reply Comments at 2-3.

[186] DIRECTV Comments at 4-6; EchoStar Reply Comments at 5, MPAA Reply Comments at 11-13.

[187] Intel Comments at 12, ATI Technologies, *et al* Comments at 7-9 ("IT Comments").

[188] Starz Encore Comments at 3-20; Starz Encore Reply Comments at 2-6; HBO Reply Comments at 2-8.

[189] CEA/CERC Reply Comments at 8-9, NCTA Reply Comments at 12-14; EFF Reply Comments at 3-4; PK & CU Reply Comments at 8.

[190] *See* 17 U S C § 1201(k), CEA/CERC Comments at 14-18. The primary difference between the DMCA and proposed encoding caps is the treatment of non-premium subscription programming (also referred to in the cable industry as the extended basic tier) which may carry a restriction of up to one generation of copies rather than no copy protection encoding as required by the DMCA Starz Encore Reply Comments at 4.

[191] *See* MPAA Comments at 9, NCTA Reply Comments at 15-16.

merely on the DMCA or 5C for precedent, but also on the strength of the underlying record in this proceeding. As discussed below, the only substantive comments received with respect to the specific caps proposed in the draft rules relates to the treatment of SVOD service.[192] The lack of objection in our record to the proposed defined business models classifications, when combined with their use in private licensing regimes and their earlier adoption in the analog context by Congress in the DMCA, militates in favor of their adoption here.

70. Some commenters suggest that Commission rules regarding encoding classifications will hinder innovation and limit the flexibility afforded new technologies and business models.[193] We disagree. There is no indication in the record beyond unsupported assertions that caps on copy protection encoding will have a major effect on innovation. Further, the proposed encoding caps provide flexibility for content providers and MVPDs to negotiate for different encoding treatments. As to the treatment of new services and business models, the draft rules provide mechanisms for the reclassification of new services within existing defined business models and for the initial classification of undefined business models.[194] In addition, new business services can be launched on a trial basis without any delay by virtue of the bona fide trial exception. We believe that these mechanisms provide sufficient flexibility to account for and encourage innovation

71. The DBS and content industries contest the applicability of the proposed encoding caps to non-cable MVPD services and dispute the need for such caps to ensure competitive parity among MVPDs in access to high value digital content.[195] We disagree. Although each MVPD remains free to negotiate with content providers for different levels of encoding that fall under or equal to the caps, we believe that it is necessary to draw a baseline providing MVPDs with the same floor from which to bargain with content providers. Application of the encoding rules to the cable industry alone would create a permanent competitive imbalance in the MVPD programming market that could negatively impact consumers. Uniform application of the proposed encoding caps serves the dual function of providing a competitive baseline for MVPDs while ensuring that consumers have equal access to content regardless of their service provider

72. Several commenters also question the specific petition procedures proposed for reclassification of new services within defined business models and the initial classification of

[192] While TiVo does not object to a particular encoding cap, it does challenge the limitation on pausing or caching content for 90 minutes under the "copy never" classification TiVo Comments at 7-9. In a similar vein, EchoStar and DIRECTV question whether the encoding rules would limit personal video recorder ("PVR") and VOD functionality absent an exception allowing the download and temporary caching of content for these services. Letter from Eddy Hartenstein, DIRECTV, and Charles Ergen, EchoStar, to Michael Powell, Chairman, FCC (Sept. 3, 2003). We concur, however, with HRRC and NCTA, which argue that a 90 minute pause functionality is a reasonable accommodation that preserves both PVR functionality and copy protection effectiveness HRRC Reply Comments at 5-6, NCTA Reply Comments at 21 We also note that the draft encoding rules specifically permit the encoding, storing or management of content within devices under an MVPDs control so long as the intent of the encoding rules is not undermined. *See* Draft Encoding Rules at 10. We believe that this exemption provides sufficient flexibility for MVPDs to offer services such as PVR and VOD where the downloading or temporary caching of content within MVPD-controlled devices is needed.

[193] CFA Reply Comments at 4-5; MPAA Comments at 3-9

[194] Draft Encoding Rules at 6-10

[195] DIRECTV Comments at 4-9; EchoStar Reply Comments at 5; MPAA Reply Comments at 11-13.

undefined business models, including the bona fide trial exception.[196] Absent direction from Congress on the appropriate encoding classification of new services within defined business models and undefined business models, we believe that these procedures provide an appropriate framework to make such determinations. We conclude that the petition procedures outlined in the draft rules are preferable to rulemaking procedures as they will promote timely decisions while preserving the opportunity for public notice and comment on the proposed classifications.[197] We will, however, modify these procedures to allow any party to file a complaint regarding the initial encoding classification by an MVPD of undefined business models In addition, we believe that the bona fide trial exception as proposed provides an appropriate amount of flexibility for MVPDs in testing new services and preserves their ability to launch such services without advance disclosure to competitors. To the extent that a particular MVPD abuses the trial exception, the draft rules contemplate a complaint process by which competitors could object to the Commission.

73. Starz Encore contests the inclusion of SVOD service in the broadest cap category which allows "copy never" encoding.[198] Starz Encore argues that SVOD is subscription-based and therefore more akin to regular premium channels than a transactional service such as PPV.[199] Although Starz Encore acknowledges that it remains free to negotiate with content providers and MVPDs for copy once status, it asserts that as a practical matter the negotiating power of content providers will force the marketplace adoption of the most restrictive treatment possible under each cap [200] In this instance, this would result in copy never treatment for Starz Encore's SVOD service. Home Box Office ("HBO"), which offers its own SVOD service, challenges Starz Encore's interpretation and argues in favor of the broader encoding category and potential copy never treatment.[201] HBO suggests that consumer choice over content and the ability to time shift programming distinguish SVOD and VOD from linear subscription services.[202] HBO also indicates that, unlike Starz Encore whose programming consists largely of theatrically released motion pictures, HBO has a proprietary interest in a large percentage of the content that it airs.[203] Since much of HBO's content is original programming that has not been made available to consumers through other outlets, HBO contends that its SVOD service merits more protective copy protection encoding.[204] Without the ability to restrict copying of its SVOD service, HBO asserts that it could not offer this service to MVPD subscribers without jeopardizing the sale of its original content through other means, such as home video sales.[205]

74. We concur with HBO that there appear to be differences between its service and

[196] IT Comments at 7-9, DIRECTV Comments at 8-9; Intel Comments at 12.

[197] *See SEC v Chenery Corp*, 332 U.S 194, 203 (1947) (making clear that choice made between proceeding by rulemaking or by adjudication lies primarily in the informed discretion of the administrative agency).

[198] Starz Encore Comments at 3-20; Starz Encore Reply Comments at 2-6.

[199] Starz Encore Comments at 10.

[200] Starz Encore Reply Comments at 2-4

[201] HBO Reply Comments at 2-8.

[202] *Id* at 5-6.

[203] *Id.* at 7.

[204] *Id.*

[205] *Id* at 8

that offered by Starz Encore, notwithstanding the fact that they both fall within the SVOD rubric. Indeed, SVOD is a nascent service that was not contemplated by Congress when it adopted Section 1201(k) of the DMCA.[206] We anticipate that SVOD will grow and evolve to a significant degree and that other forms of this service, including those different than that offered by Starz Encore and HBO, will emerge in the near future. For this reason, we decline to classify SVOD as a defined business model and will allow MVPDs to treat both existing and future SVOD program offerings as undefined business models Under the encoding classification procedures applicable to undefined business models, MVPDs will have discretion to determine whether specific SVOD offerings merit different encoding terms, subject to any complaints raised before the Commission. We conclude that this treatment allows SVOD to more fully develop as a program offering in the marketplace and will afford MVPDs more flexibility in the encoding of different forms of this service.

VI. DFAST LICENSE

75. In addition to the regulatory proposals accompanying the MOU, the cable and consumer electronics industries provided a model DFAST license to the Commission.[207] The MOU proponents did not seek regulatory approval for the license, but rather supplied it to the Commission for informational purposes. This document governs the licensing terms for the DFAST scrambling technology needed to manufacture the POD-Host interface component of unidirectional digital cable products. This license differs from its predecessor, the POD Host Interface Licensing Agreement ("PHILA"), in that it does not contain certification procedures and encoding rules – elements otherwise encompassed in the regulatory proposals made to the Commission. For this reason, the MOU indicated that the DFAST license is contingent upon Commission approval of the draft technical and encoding rules in substantially the same form as proposed to the Commission.[208] Our discussion of the model DFAST license herein is not intended to reflect a review or an approval of its terms. The model license does, however, reference FCC oversight in two key regards: (1) changes to the license's compliance and robustness rules, and (2) approvals of new connectors and associated content protection technologies.[209] Below we discuss our role in these areas.

A. Compliance and Robustness Rules

76. The model DFAST license sets forth procedures by which CableLabs may change its compliance and robustness rules, including notice to licensees and a process by which licensees can object to the proposed changes [210] These procedures anticipate that a licensee may seek review of the proposed change by the Commission within 60 days following notice of the change.[211] The DFAST license calls for the Commission to expeditiously determine "whether the proposed change serves the public interest, taking into account its effect on consumers, [l]icensees and [c]able [o]perators; competition, innovation, developments in technology; and the need to protect [content]."[212] We hereby clarify that, to the extent a DFAST licensee seeks

[206] *See* 17 U S.C § 1201(k)

[207] Draft DFAST License at 1-37.

[208] MOU at 1.

[209] Draft DFAST License at 8-9, 21, 24.

[210] *Id.* at 8.

[211] *Id*

[212] *Id.*

Commission review of proposed changes to the compliance and robustness rules, we will consider such petitions on a case-by-case basis pursuant to our normal procedures and timing under Section 76.7 of the Commission's rules.[213]

B. Approval of New Outputs and Associated Content Protection Technologies

77. As in the case of the compliance and robustness rules, the DFAST license reserves for the Commission an appellate role in overseeing initial determinations by CableLabs approving new outputs or associated content protection technologies for use with unidirectional digital cable products.[214] When CableLabs disapproves a particular output or copy protection technology, or when CableLabs fails to make a determination within the allotted 180-day time frame, the DFAST license would permit a manufacturer to petition the Commission concerning the denial or lack of approval.[215] The Commission would be expected to determine in an expedited fashion whether the output or content protection technology "provides effective protection to [content] against unauthorized interception, retransmission or copying, taking into account, among other things, the factors utilized by CableLabs."[216]

78. While we recognize the fundamental interest of the cable industry in ensuring that devices connecting to their distribution systems do not result in theft of service or harm to their networks, we are concerned that CableLabs's proposed role as the sole initial arbiter of outputs and associated content protection technologies to be used in unidirectional digital cable products could affect innovation and interoperability in a number of areas, including the development of personal digital networks in consumers' homes. These concerns stem from the convergence of digital technologies occurring in the marketplace and our belief that unidirectional digital cable televisions and products will play a key role in the digital information age. We conclude that additional public comment is needed in order to determine how and on what conditions new connectors or content protection technologies will be approved for use with unidirectional digital cable televisions and products. Below we initiate a *Second FNPRM* to consider these issues.

79. To ensure that innovation is not impeded while this *Second FNPRM* is pending before the Commission, we are adopting an interim policy by which CableLabs may make initial determinations regarding the use of new output or content protection technologies, subject to Commission review when disputes arise. Any interested party, including but not limited to consumer electronics manufacturers, content providers, information technology companies or consumers, may appeal an initial decision by CableLabs to the Commission. CableLabs shall bear the burden of proof that its initial determination, whether an approval or disapproval, was justified In any responsive pleading to an appeal before the Commission, CableLabs will specify each of the objective criteria used to evaluate the proposed output and copy protection technology and articulate in detail how such proposed output and copy protection technology met or failed to meet each of the criteria. Should CableLabs disapprove a particular output or content protection technology, we expect that CableLabs will articulate in detail the reasons for its disapproval. The Commission will review *de novo* both the reasonableness and necessity of the objective criteria,

[213] *See* 47 C F.R § 76 7

[214] Draft DFAST License at 21, 24

[215] *Id* at 21

[216] *Id.*

as well as CableLab's application thereof to the proposal under consideration.[217] We clarify that parties seeking Commission review may file a petition for special relief pursuant to our normal procedures under Section 76.7 of the Commission's rules.[218] The Commission will address such petitions on an expedited basis. In the event that the security of a connector or content protection technology should be compromised while this interim policy is in effect, we will consider petitions for revocation pursuant to our normal Section 76.7 procedures.[219] Parties seeking revocation should articulate in detail the extent to which the connector or content protection technology has been compromised and demonstrate why alternative revocation measures, such as those available under private licenses, are insufficient to address the breach in security.

VII. SECOND FURTHER NOTICE OF PROPOSED RULEMAKING

80. Although we believe that our adoption of the technical, labeling and encoding rules set forth herein will further the digital transition and facilitate the wider availability of digital cable services to consumers, further comment is needed on several issues. As an initial matter, we seek comment on whether the transmission standards applicable to digital cable systems with an activated channel capacity of 750 MHz or greater should be extended to digital cable systems with an activated channel capacity of 550 MHz or greater. In particular, we seek comment on the potential cost impact on such cable systems and whether waivers or other relief mechanisms are appropriate for cable systems that might experience economic hardship as a result of these obligations.

81. With respect to the issue of consumer information disclosures, we seek comment on whether the Commission should require consumer electronics manufacturers to provide consumers with pre-sale information regarding the functionalities of unidirectional digital cable televisions. For example, we seek comment on whether it is appropriate to require consumer electronics manufacturers to inform potential purchasers of unidirectional digital cable televisions of: (1) the need to use a set-top box in order to receive interactive services, (2) the necessity to obtain a POD from their cable operator, or (3) any other relevant information disclosing the functionalities or limitations of these devices. If so, we seek comment on the appropriate mechanism to communicate this information to consumers, including but not limited to point of sale marketing materials to be provided to retailers, more informative labeling on device packaging, the use of Internet web sites, or any other appropriate format designed to reach consumers before they make purchasing decisions.

82. Another area in which we seek additional comment relates to the down-resolution of non-broadcast MVPD programming. As discussed above, content providers assert that down-resolution is a necessary tool to incite the retirement of component analog outputs.[220] Despite this assertion, the cable and consumer electronics industries have been unable to reach agreement on whether down-resolution was an appropriate content protection tool.[221] We seek

[217] Should the Commission discover evidence of anticompetitive behavior relating to the approval process for new outputs or content protection technologies, whether it involves a denial or a failure to make a determination by the decision-making entity, we will refer the matter to the appropriate antitrust authority for investigation and take any other appropriate action.

[218] *See* 47 C F R § 76.7.

[219] *Id.*

[220] *See* MPAA Reply Comments at 13-15

[221] *See* Section V C *supra.*

comment on whether the Commission should prohibit the activation by MVPDs of down-resolution for non-broadcast MVPD programming content. If so, we seek comment on the potential impact of such a ban on the availability of high value digital content to consumers. In the alternative, if the Commission were to permit the use of down-resolution in this manner, we seek comment on the potential impact on consumers with DTV equipment that only has component analog outputs. In particular, we seek comment on the number of consumers that might be affected and on the number of sets to be produced in the future with only analog outputs Finally, we seek comment on the potential impact of down-resolution upon consumers who own DTV equipment with both digital and analog outputs.

83. As discussed above, we are concerned that because CableLabs is not a standards-setting body, its proposed role as the sole *initial arbiter of outputs and associated content* protection technologies to be used in unidirectional digital cable products could affect innovation and interoperability. This *Second FNPRM* seeks comment on whether standards and procedures should be adopted for the approval of new connectors or content protection technologies to be used with unidirectional digital cable televisions and products. If so, we seek comment on whether these standards and procedures should encompass other related consumer electronics equipment, including non-cable compatible DTV receivers.[222] We also seek comment on the various types of content protection technologies that should be considered as a part of this process, including but not limited to digital rights management, wireless and encryption-based technologies.

84. With respect to the particular standards and procedures to be employed, we seek comment on whether objective criteria should be used to evaluate new connectors and content protection technologies and, if so, what specific criteria should be used. For example, Microsoft Corporation and Hewlett Packard Corporation have submitted a detailed proposal suggesting functional requirements that could be used to evaluate digital rights management technologies for use with digital cable ready products.[223] We seek comment on this proposal, as well as other proposals relyinging on objective criteria,[224] and any new proposals that commenters may submit to the Commission.

85. We also seek comment on whether CableLabs is the appropriate entity to make initial approval determinations, or whether another entity should have decision-making authority In particular, we seek comment on whether the Commission, a qualified third party, or an independent entity representing various industry and consumer interests should make approval determinations.

86. As to the issue of how approved connectors or content protection technologies may be revoked should their security be compromised, we seek comment on the appropriate standard for revocation. Specifically, we seek comment on whether revocation is appropriate

[222] We recognize that similar issues have been raised with respect to the so-called "Table A" proposal in the Commission's pending *Digital Broadcast Copy Protection proceeding* *See Digital Broadcast NPRM,* 17 FCC Rcd at 16029. We seek comment on whether a regime similar to Table A should be employed in this instance.

[223] Letter from Paula H. Boyd, Microsoft Corporation, and David Isaacs, Hewlett-Packard Corp., to Marlene Dortch, Secretary, FCC (Aug. 8, 2003).

[224] *See e g*, Comments of Philips Electronics North America Corporation and Comments of the IT Coalition, *filed in* MB Docket No. 02-230.

where a connector or content protection technology is perceived to be insecure, or whether the appropriate standard is where security has been compromised in a significant, widespread manner. Once a connector or content protection technology has been revoked, we seek comment on the appropriate mechanism by which revocation should be effectuated. For example, should revoked connectors or content protection technologies be eliminated on a going-forward basis, while preserving their functionality for existing devices? We also seek comment on whether there are technological or other means of revoking connectors or content protection technologies while preserving the functionality of consumer electronics devices.

VIII. PROCEDURAL MATTERS

87. *Authority.* This *Second Further Notice of Proposed Rulemaking* is issued pursuant to authority contained in §§ Sections 1, 4(i) and (j), 303, 403, 601, 624A and 629 of the Communications Act of 1934, as amended

88. *Ex Parte Rules – Non-Restricted Proceeding.* This is a non-restricted notice and comment rulemaking proceeding. Ex parte presentations are permitted, except during the Sunshine Agenda period, provided that they are disclosed as provided in the Commission's Rules. *See generally* 47 C.F.R. §§ 1.1202, 1.1203, and 1.1206(a).

89. *Accessibility Information.* Accessible formats of this *Second Order and Second Further Notice of Proposed Rulemaking* (computer diskettes, large print, audio recording and Braille) are available to persons with disabilities by contacting Brian Millin, of the Consumer & Governmental Affairs Bureau, at (202) 418-7426, TTY (202) 418-7365, or at bmillin@fcc.gov.

90. *Comment Information.* Pursuant to Sections 1.415 and 1.419 of the Commission's rules, 47 C.F.R §§ 1.415, 1.419, interested parties may file comments on or before **January 14, 2004**, and reply comments on or before **February 13, 2004**. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS) or by filing paper copies. See Electronic Filing of Documents in Rulemaking Proceedings, 63 Fed. Reg. 24121 (1998).

91. Comments filed through the ECFS can be sent as an electronic file via the Internet to <http://www.fcc.gov/e-file/ecfs.html>. Generally, only one copy of an electronic submission must be filed. If multiple docket or rulemaking numbers appear in the caption of this proceeding, however, commenters must transmit one electronic copy of the comments to each docket or rulemaking number referenced in the caption. In completing the transmittal screen, commenters should include their full name, U.S. Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions for e-mail comments, commenters should send an e-mail to ecfs@fcc.gov, and should include the following words in the body of the message, "get form <your e-mail address>." A sample form and directions will be sent in reply. Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rulemaking number appear in the caption of this proceeding, commenters must submit two additional copies for each additional docket or rulemaking number. Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service mail). The Commission's contractor, Natek, Inc., will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, N.E., Suite 110, Washington, D.C. 20002. The filing hours at this location are 8:00 a.m. to 7:00 p.m. All

hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building. Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743. U.S. Postal Service first-class mail, Express Mail, and Priority Mail should be addressed to 445 12th Street, SW, Washington, D.C. 20554. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

92. *Paperwork Reduction Act of 1995 Analysis.* The *Second Report and Order* portion of this *Second Report and Order and Second Further Notice of Proposed Rulemaking* contains new or modified information collection(s) subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. It will be submitted to the Office of Management and Budget (OMB) for review under Section 3507(d) of the PRA. OMB, the general public, and other Federal agencies are invited to comment on the new or modified information collection(s) contained in this proceeding

93. Written comments by the public on the proposed information collection(s) are due 60 days from date of publication of this *Second Report and Order* in the Federal Register. Written comments must be submitted by the public, Office of Management and Budget and other interested parties on the proposed information collection(s) on or before 60 days from date of publication of this *Second Report and Order* in the Federal Register. In addition to filing comments with the Secretary, a copy of any comments on the information collection(s) contained herein should be submitted to Leslie Smith, Federal Communications Commission, Room 1-A804, 445 12th Street, SW, Washington, DC 20554, or via the Internet to Leslie.Smith@fcc.gov, and to Kim A. Johnson, OMB Desk Officer, Room 10236 NEOB, 725 17th Street, NW, Washington, DC 20503, or via the Internet to Kim_A._Johnson@omb.eop.gov.

94. *Regulatory Flexibility Act.* As required by the Regulatory Flexibility Act,[225] the Commission has prepared a Final Regulatory Flexibility Analysis ("FRFA") relating to the *Second Report and Order* portion of this *Second Report and Order and Second Further Notice of Proposed Rulemaking*. The FRFA is set forth in Appendix C. The Commission has also prepared an Initial Regulatory Flexibility Analysis ("IRFA") of the possible significant economic impact on a substantial number of small entities of the proposals addressed in *Second Further Notice* portion of this *Second Report and Order and Second Further Notice of Proposed Rulemaking*.[226] The IRFA is set forth in Appendix D Written public comments are requested on the IRFA. These comments must be filed in accordance with the same filing deadlines for comments on the *Second Further Notice*, and they should have a separate and distinct heading designating them as responses to the IRFA.

IX. ORDERING CLAUSES

95. **IT IS ORDERED** that pursuant to the authority contained in Sections 1, 4(i) and (j), 303, 403, 601, 624A and 629 of the Communications Act of 1934, 47 U.S.C §§ 151, 154(i) and (j), 303, 403, 521, 544a and 549, that the Commission's rules **ARE HEREBY AMENDED** as set forth in Appendix B, and shall become effective 30 days after publication in the Federal Register except that rule sections 15.123, 76.1905 and 76 1906 that contain information collection requirements under the PRA are not effective until approved by OMB. The FCC will publish a

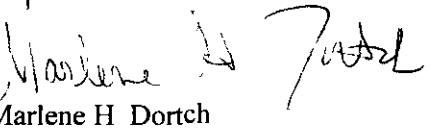
[225] *See* 5 U.S.C. § 604

[226] *Id* § 603

document in the Federal Register announcing the effective date for those sections.

96. **IT IS FURTHER ORDERED** that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, **SHALL SEND** a copy of this *Second Report and Order and Second Further Notice of Proposed Rulemaking*, including the Final Regulatory Flexibility Analysis and Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION



Marlene H Dortch
Secretary